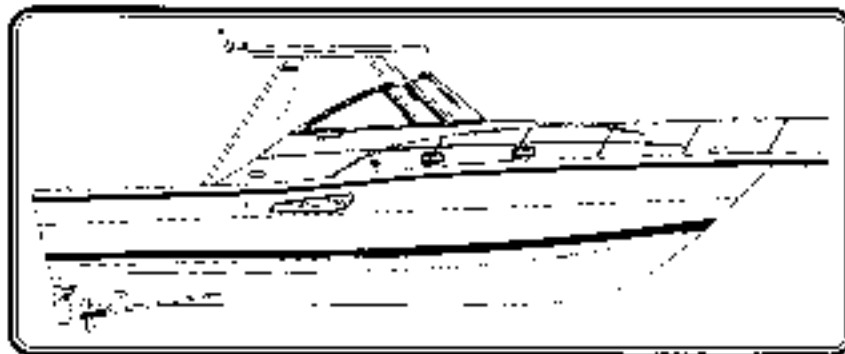


# **PURSUIT®**

## **3000 EXPRESS OWNER'S MANUAL**

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**PURSUIT FISHING BOATS**  
3901 St. Lucie Blvd.  
P.O. Pierce, Florida 34946

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## **IMPORTANT INFORMATION**

Your **PURSUIT** 3000 Express Owner's Manual has been written to include a number of safety instructions to assure the safe operation and maintenance of your boat. These instructions are in the form of **WARNING**, **CAUTION** and **DANGER** statements. The following definitions apply:



**IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.**



**HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.**



**HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN MINOR PERSONAL INJURY OR PRODUCT AND PROPERTY DAMAGE.**

All instructions given in this book are as seen from the stern looking toward the bow, with starboard being to your right, and port to your left. A glossary of boating terms is included.

**IMPORTANT NOTE:** Your boat uses internal combustion engines and flammable fuel. Every precaution has been taken by Pursuit Fishing Boats to reduce the risks associated with possible injury and damage from fire or explosion, but your own precaution and good maintenance procedures are necessary in order to enjoy safe operation of your boat.

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## **BOAT INFORMATION**

Please fill out the following information section and leave it in your Pursuit 3000 Express Owner's Manual. This information will be important for you and Pursuit service personnel to know, if and when you may need to call Pursuit for technical assistance or service.

<b>BOAT</b>	
MODEL:	HULL SERIAL #:
PURCHASE DATE:	DELIVERY DATE:
IGNITION KEY #:	REGISTRATION #:
DRAFT:	WEIGHT:
<b>ENGINE(S)</b>	
MAKE:	MODEL:
PORT SERIAL #:	STARBOARD SERIAL #:
<b>TRANSMISSION(S) (Inboard)</b>	
MAKE:	MODEL:
PORT SERIAL #:	STARBOARD SERIAL #:
RATIO:	
<b>OUTDRIVE(S) (Inboard/Outboard)</b>	
MAKE:	MODEL:
PORT SERIAL #:	STARBOARD SERIAL #:
<b>PROPELLER(S)</b>	
MAKE:	BLADES:
DIAMETER/PITCH:	OTHER:
<b>TRAILER</b>	
MAKE:	MODEL:
SERIAL #:	GVWR:
<b>DEALER</b>	<b>PURSUIT</b>
NAME:	PHONE:
DEALER/PHONE:	REPRESENTATIVE:
SALESMAN:	ADDRESS:
SERVICE MANAGER:	
ADDRESS:	

Pursuit Fishing Boats reserves the right to make changes and improvements in equipment design and rendered equipment items, at any time without notification.

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## **IMPORTANT INFORMATION**

### **Warranty and Warranty Registration Cards**

The Pursuit Limited Warranty Statement is included with your boat. It has been written to be clearly stated and easily understood. If you have any questions after reading the warranty, please contact the Pursuit Customer Relations Department.

Pursuit, engine manufacturers, and the suppliers of major components maintain their own manufacturer's warranty and service facilities. It is important that you properly complete the warranty registration cards included with your boat and engine(s) and mail them back to the manufacturers to register your ownership. This should be done within 15 days of the date of purchase and before the boat is put into service. A form for recording this information is provided at the beginning of this manual. This information will be important for you and service personnel to know, if and when you may need service or technical information.

The boat warranty registration requires the Hull Identification Number "HIN" which is located on the starboard side of the transom, just below the rubrail. The engine warranty registration requires the engine serial number(s). Please refer to the engine owner's manual for the location of the serial number(s).

### **IMPORTANT:**

All boat manufacturers are required by the Federal Boat Safety Act of 1971 to notify first time owners in the event any defect is discovered "which creates a substantial risk of personal injury to the public." **It is essential that we have your warranty registration card complete with your name and mailing address in our files so that we can comply with the law if it should become necessary.**

### **Product Changes**

Pursuit is committed to the continuous improvement of our boats. As a result, some of the equipment described in this manual or pictured in the catalog may change or no longer be available. **Pursuit reserves the right to change standard equipment, optional equipment and specifications without notice or obligation.** If you have questions about the equipment on your Pursuit, please contact your dealer or the Pursuit Customer Relations Department.

### **Transferring The Warranty**

For a Transfer fee, S2 Yachts will extend warranty coverage to subsequent owners of Pursuit models for the duration of the original warranty period. Please refer to the Pursuit Limited Warranty Statement for the procedure to transfer the warranty.

To take advantage of this program, notification of the change of ownership, including the new owner's name, address and telephone number together with the appropriate fee, must be sent to Pursuit Fishing Boats, Customer Relations Department, 3901 St. Lucie Boulevard, Ft. Pierce, Florida 34946, within 30 days of the date of resale.

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S2 Yachts will confirm, in writing, that the transfer of the warranty has taken place. After which, the transferee will be treated as the original purchaser as outlined in the Pursuit Limited Warranty Statement.

**Service**

All warranty repairs must be performed by an authorized Pursuit Dealer. Should a problem develop that is related to faulty workmanship or materials, as stated in the Limited Warranty, you should contact your Pursuit dealer to arrange for the necessary repair. If you are not near your dealer or another authorized Pursuit dealer or the dealer fails to remedy the cause of the problem, then contact the Pursuit Customer Relations Department within 15 days. **It is the boat owner's responsibility to deliver the boat to the dealer for warranty service.**

**PURSUIT** 3800 EXPRESS



## **OWNER'S/OPERATOR'S RESPONSIBILITIES**

### **Registration and Numbering**

Federal law requires that all undocumented vessels equipped with propulsion machinery be registered in the state of principal use. A certificate of number will be issued upon registering the boat. These numbers must be displayed on your boat. The owner/operator of a boat must carry a valid certificate of number whenever the boat is in use. When moved to a new state of principal use, the certificate is valid for 60 days.

In order to be valid, the numbers must be installed to the proper specifications. Check with your dealer or state boating authority for numbering requirements. The Coast Guard issues the certificate of number in Alaska; all others are issued by the state.

### **Insurance**

In most states the boat owner is legally responsible for damages or injuries he or someone else operating the boat causes. Responsible boaters carry adequate liability and property damage insurance for their boat. You also should protect the boat against physical damage and theft. Some states have laws requiring minimum insurance coverage. Contact your dealer or state boating authority for information on the insurance requirements in your boating area.

### **Reporting Boating Accidents**

All boating accidents must be reported by the operator or owner of the boat to the proper marine law enforcement authority for the state in which the accident occurred. Immediate notification is required if a person dies or disappears as a result of a recreational boating accident.

If a person dies or there are injuries requiring more than first aid, a formal report must be filed within 48 hours.

A formal report must be made within 30 days for accidents involving more than \$500.00 damage or the complete loss of a boat.

A Boating Accident Report form is located near the back of this manual to assist you in reporting an accident. If you need additional information regarding accident reporting, please call the Boating Safety Hotline, 800-368-5647.

### **Education**

If you are not an experienced boater, we recommend that the boat operator and other people that normally accompany the operator, enroll in a boating safety course. Organizations such as the U.S. Power Squadrons, United States Coast Guard Auxiliary, State Boating Authorities and the American Red Cross offer excellent boating educational programs. These courses are worthwhile even for experienced boaters to sharpen your skills or bring you up on date on current rules and

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regulations. They can also help in providing local navigational information when moving to a new boating area. Contact your dealer, State Boating Authority or the Boating Safety Hotline, 800-368-5647, for further information on boating safety courses.

#### **Required Equipment**

U.S. Coast Guard regulations require certain equipment on each boat. The Coast Guard also sets minimum safety standards for vessels and associated equipment. To meet these standards some of the equipment must be Coast Guard approved. "Coast Guard Approved Equipment" has been determined to be in compliance with USCG specifications and regulations relating to performance, construction, or materials. The equipment requirements vary according to the length, type of boat, and the propulsion system. Some of the Coast Guard equipment is described in the Safety Equipment chapter of this manual. For a more detailed description, obtain "Federal Requirements And Safety Tips For Recreational Boats" by contacting the Boating Safety Hotline, 800-368-5647, or your local marine dealer or retailer and read the book "Sportfish Cruisers, Yachts - Owner's Manual" included with this manual.

Some state and local agencies impose similar equipment requirements on waters that do not fall under Coast Guard jurisdiction. These agencies also may require additional equipment that is not required by the Coast Guard. Your dealer or local boating authority can provide you with additional information for the equipment requirements for your boating area.

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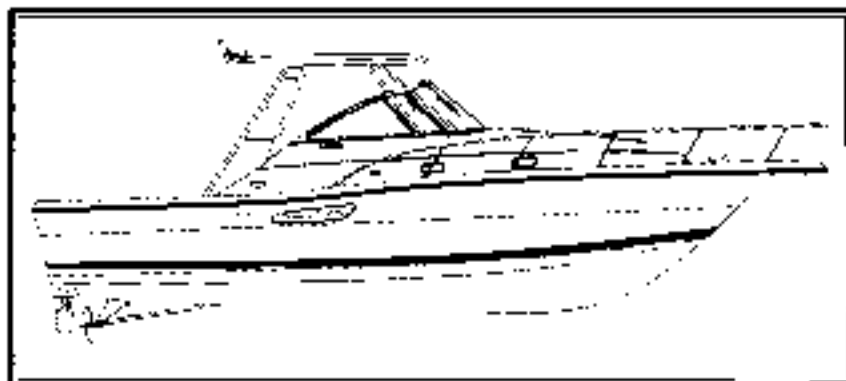
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## Chapter 1: PROPULSION SYSTEM



3000 Express

### 1.1 General

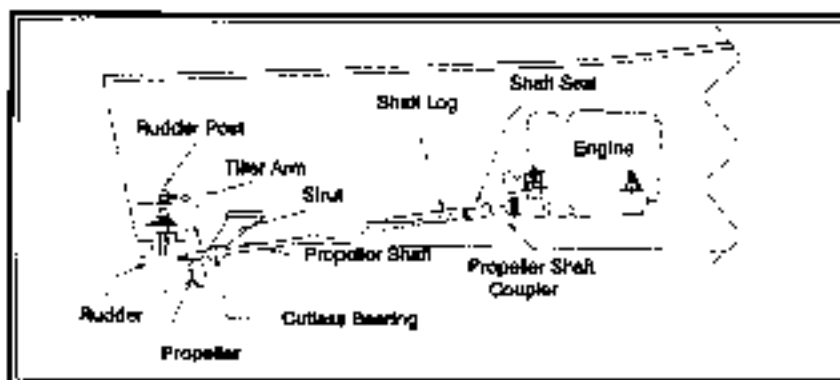
The Pursuit 3000 Express is designed to be powered with twin gasoline or diesel inboard engines. Each manufacturer of the various marine power components provides an owner's information manual with its product. It is important that you read the manual(s) very carefully and become familiar with the proper care and operation of the engines and drive systems. A warranty registration card has been furnished with each new engine and can be located in the engine owner's manual. All information requested on this card should be filled out completely by the dealer and purchaser and then returned to the respective engine manufacturer as soon as possible.



DO NOT ATTEMPT TO SERVICE ANY ENGINE OR DRIVE COMPONENT WITHOUT BEING TOTALLY FAMILIAR WITH THE SAFE AND PROPER SERVICE PROCEDURES. CERTAIN MOVING PARTS ARE EXPOSED AND CAN BE DANGEROUS TO SOMEONE UNFAMILIAR WITH THE OPERATION AND FUNCTION OF THE EQUIPMENT.



USE ONLY CLEAN, DRY FUEL OF THE TYPE AND GRADE RECOMMENDED BY THE ENGINE MANUFACTURER. THE USE OF INCORRECT OR CONTAMINATED FUEL CAN CAUSE ENGINE MALFUNCTION AND SERIOUS DAMAGE.



*Inboard Drive System*

## 1.2 Drive Systems

On inboard propulsion systems, all shifting and gearing components are installed inside the hull. Only the propeller shafts and associated equipment are under water. The engines are mounted below the bridge deck sole. A transmission, also called a gearbox, which performs desired shifting functions, is directly coupled to each engine. The propeller shaft extends through the hull and connects the transmission output coupling with the propeller. Some inboard transmissions have built-in reduction gearing. This gearing reduces the speed of the propeller in relation to engine speed.



**ALWAYS RETURN THE ENGINE THROTTLE LEVERS TO THE EXTREME LOW SPEED POSITION BEFORE SHIFTING. NEVER SHIFT THE UNIT WHILE THE ENGINE SPEED IS ABOVE 1000 RPM.**

All transmissions require oil or fluid of some type for lubrication. This level should be checked at the same interval as the engine oil level.

Your boat is equipped with transmissions supplied by the engine manufacturer. For details on the transmissions, refer to the engine or transmission owner's manual.

## 1.3 Engine Exhaust System

Engine exhaust exits the rear of the boat through the exhaust system. The system consists of engine exhaust manifolds, exhaust hoses, mufflers, and thru-hull exhaust fittings.

Inboard boats use the exhaust system to relinquish exhaust gases and cooling water. A periodic inspection of the hoses, mufflers, and related parts should be made to insure that leaks or heat deterioration have not resulted. Periodically inspect these items for signs of deterioration or damage. Replace them as necessary.



**DO NOT INHALE EXHAUST FUMES. EXHAUST CONTAINS CARBON MONOXIDE THAT IS COLORLESS AND ODORLESS. CARBON MONOXIDE IS A DANGEROUS GAS THAT IS POTENTIALLY LETHAL.**

## 1.4 Engine Cooling System

All marine engines use surface water as a cooling medium. The cooling water enters the system through a water intake in the hull and is expelled through the exhaust system. Water is pumped through the water inlets, circulated through the engine block or heat exchanger, and relinquished with the exhaust gases through the exhaust system. The water pump uses a small impeller made of synthetic rubber. The impeller and water pump cannot run dry for more than a few seconds. Inboard engines use a thru hull water intake scoop and strainer. This strainer is located on the hull bottom and must be kept free of mud, weeds and other debris. A ball valve is provided on each intake thru hull. Be sure these valves are in the open position before operating the boat engines.

A standard in-line sea strainer is located above the intake thru hull strainers. These should be visually inspected periodically, by looking through the glass case, for accumulation of marine growth, weeds, and other foreign objects. If clogged or dirty, the strainer should be cleaned.



**A CLOGGED SEA STRAINER CAN RESTRICT THE SUPPLY OF COOLING WATER TO THE ENGINE AND EXHAUST COMPONENTS, WHICH COULD RESULT IN SEVERE ENGINE AND EXHAUST SYSTEM DAMAGE.**

### Cleaning the sea strainers

- Turn off the engines.
- Close the engine water intake valve.
- Open the top of the strainer and remove the screen.
- Thoroughly flush the screen and the inside of the strainer to remove foreign matter.
- Lubricate the seal.



Engine Sea Strainer

- Reassemble the strainer making sure that all fasteners are tight.
- Open the intake valve.
- Start the engine and inspect the strainer for leaks.



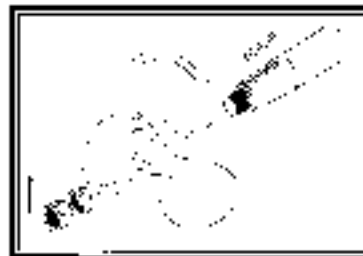
**SHOULD AN ENGINE INTAKE, EXHAUST OR COOLING HOSE RUPTURE, TURN OFF THE ENGINE AND CLOSE THE ENGINE WATER INTAKE VALVE IMMEDIATELY. PROCEED UNDER TOW IF NECESSARY, TO A SERVICE FACILITY FOR APPROPRIATE REPAIRS. MAINTAIN A CLOSE VISUAL WATCH ON THE PROBLEM HOSE AND THE BILGE WATER LEVEL.**

Inboard boats utilize an exhaust hose to relinquish cooling water. A periodic inspection of the hose, mufflers and related parts should be made to insure that leaks or heat deterioration have not resulted.

Installation of "Fresh Water Cooling" provides adequate engine cooling without exposing the internal engine cooling system to the harmful effects of surface water. This system is standard with diesel and gasoline engines on the 3000 Express. The engine owner's manual provides additional information regarding the service and maintenance of this equipment.

## 1.5 Propellers

When the boats are shipped, the propellers are not factory installed. Initial installation of the propellers will be performed by the dealer during pre-delivery service. Should it be necessary to change propellers, always use an appropriate removal tool or "Prop Puller." Do not attempt removal using a hammer. Damage to the propeller, propeller shaft, or transmission can result.



*Propeller Assembly*

A few simple steps will enable you to install a propeller. First, insure that no burrs or rough edges exist on the shaft, key, and both keyways. Try the key into the keyways. It must slide freely into position without having side play. It might be necessary to file the key with a flat file to create the correct tolerance.

To ensure the proper fit of your propeller, follow these procedures:

- Step 1: Without the key installed, slip the propeller on the shaft by hand as far as it will go. Mark the location at the front of the hub with a dry-marker and remove the propeller.

**Step 2:** Install the key in the shaft.

**Step 3:** Again, slide the propeller into position by hand. Please note that the key should not extend beyond the forward edge of the propeller hub. The propeller should reach the same spot as before. If it does not, the key has probably moved up the keyway, or the key does not fit properly in one or both of the keyways.

**Step 4:** Install the propeller nuts. When installing the shaft nuts, take care not to tighten them too much. Do not force the nut into a tighter position by using a hammer or extension on the arm of the wrench. Tighten the thin nut, then lock the wide nut tight against the thin nut and insert the cotter pin.

If not properly installed, the propeller will be off balance and this is a frequent cause of vibration. It could also cause the propeller hub to split.



**DO NOT ATTEMPT TO OPERATE THE BOAT IF THE PROPELLER DOES NOT FIT PROPERLY ON THE SHAFT. PROBLEMS SUCH AS SHAFT VIBRATION, PROPELLER HUB FAILURE OR SHAFT FAILURE MAY OCCUR.**

**Note:** Before changing propellers to correct boat performance problems, be sure other factors such as engine tuning, bottom and running gear growth, etc., are not the source of performance changes.

**Note:** Always be sure the engine is properly tuned and load conditions are those normally experienced, before changing propellers.

## 1.6 Running Gear



KEEP AWAY FROM THE PROPULSION MACHINERY DURING ITS OPERATION OR WHENEVER THE BOAT IS IN MOTION. MOVEMENT OF WATER PAST A PROPELLER CAN CAUSE THE PROPELLER, SHAFT AND OTHER PROPULSION MACHINERY TO ROTATE EVEN IF THAT EQUIPMENT IS NOT BEING OPERATED INTENTIONALLY.

### Shaft Logs and Dripless Seal

The shaft logs, which are fastened into the hull bottom, allow the propeller shaft to extend and rotate through the hull. The shaft log is equipped with a special "Dripless" propeller shaft seal. To lubricate this seal, sea water from the engine cooling system is injected into the shaft seal through a hose that is connected in the engine and the shaft seal housing.

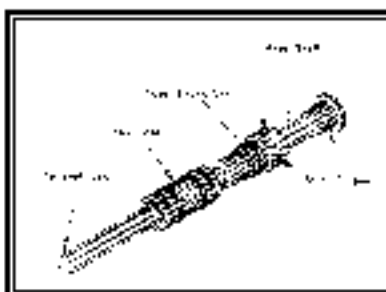
The shaft seal must have positive water injection any time the propeller shaft is rotating. The water flow to the seal should be tested annually by removing the water injection hose from the seal

fitting and running the engine at idle with the transmission in neutral. There should be a positive flow of water from the hose. If no water is flowing from the hose, contact your dealer or the Pursuit Customer Relations Department before operating your boat. Some water will leak into the bilge from the hose fitting on the seal assembly during this test. The hose should immediately be reconnected and the hose clamps tightened securely when the test is completed. Please refer to the seal manufacturer's owner's manual for additional information on the shaft seal.

Proper performance of the shaft seal is directly dependent upon correct propeller shaft alignment. Propeller damage, a bent stern or shaft, or abnormal wear, seating, etc. are common reasons for misalignment. This can cause such problems as repeated shaft leakage, excess seal wear, shaft log and assembly damage, premature strut bearing wear, etc. It is, therefore, important that the alignment be periodically checked and adjustments are made when necessary.



ALWAYS BE SURE TO USE THE SHAFT REMOVAL SLEEVE AND FOLLOW THE SEAL MANUFACTURER'S INSTRUCTIONS WHEN REMOVING OR INSTALLING A PROPELLER SHAFT. IMPROPERLY REMOVING OR INSTALLING A PROPELLER SHAFT CAN PERMANENTLY DAMAGE THE SHAFT SEAL AND CAUSE IT TO LEAK.



Propeller Shaft Seal

### **Struts**

The struts are the metal castings bolted to the bottom of the hull to secure the aft end of the propeller shafts. A replaceable rubber bearing, also called a strut bearing, is used to minimize shaft wear. The strut bearing should be inspected once a year, or whenever the boat is hauled, to insure that there has been no damage or deterioration and that the strut bearing is not worn excessively. Upon inspection of the bearing, a small amount of play between the propeller shaft and bearing, .008" to .010", is normal. This gap allows water to pass between the bearing and the shaft to lubricate the bearing surface. If the rubber bearing shows signs of deterioration, or excessive wear, greater than .015" play between the bearing and the shaft surfaces, the bearing should be replaced and you should contact your Pursuit dealer. It is advisable, during lay-up periods, to insert some castor oil into the rubber bearing to keep it from "freezing" to the shaft. Never use machine oil or grease on the rubber bearing.



THE OPERATION OF THIS BOAT IN HEAVILY SILTED OR POLLUTED WATER, WITH A DAMAGED PROPELLER, A DAMAGED PROPELLER SHAFT OR WITH THE ENGINE OUT OF ALIGNMENT, CAN SIGNIFICANTLY SHORTEN THE LIFE OF THE STRUT BEARING. IF YOU EXPERIENCE ANY OF THESE SITUATIONS, THE BEARING SHOULD BE CHECKED MORE FREQUENTLY.



ALWAYS CHECK THE ENGINE ALIGNMENT AFTER REPLACING THE STRUT BEARING.

### **Propeller Shaft Alignment**

The propeller shaft coupling and the transmission coupling should be checked for proper alignment beginning with the first launching, again after 20 hours of engine operation, and annually thereafter. The alignment should especially be checked if noise or vibration occurs.

Excessive vibration, abnormal strut bearing wear, or broken propeller shaft coupling bolts are an indication of misalignment. Misalignment can also cause severe damage to the shaft log, strut, shaft and the engine transmission. Realignment should only be performed by a qualified service person.



Propeller Shaft Coupler

The correct procedure for checking the shaft alignment so a boat owner can determine if service work is required, is as follows:

Step 1: Remove the belts that secure the propeller shaft flanges.

- Step 2: Hold the propeller shaft flange firmly against the transmission flange.
- Step 3: Try to insert a .003" feeler gauge at the top, the bottom and at both sides between the flanges. If it can be easily inserted between the flanges in any area, try inserting a larger feeler gauge until you determine the amount of variance.
- Step 4: While holding the transmission flange, turn the prop shaft 90 degrees and repeat step 3. A straight shaft in proper alignment will not allow the insertion of a feeler gauge larger than .003", regardless of the prop shaft position.
- Step 5: If a gap larger than .003" is found and the gap moves as the shaft flange is rotated, the flange or the prop shaft is bent out of tolerance and must be replaced or removed and straightened. If the gap remains at the same position regardless of the propeller shaft rotated position, the engine must be realigned. At this point, a Pursuit dealer should be contacted.

**NOTE:** The boat should always be at rest in the water when checking or aligning the propeller shaft.



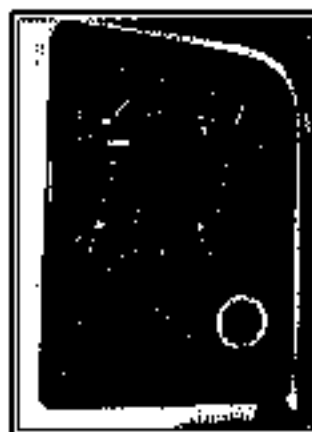
**MAKE SURE THE PROPELLER SHAFT FLANGE BOLTS ARE TIGHTENED SECURELY AFTER CHECKING THE FACING ALIGNMENT AND BEFORE OPERATING THE BOAT**

**SPECIAL NOTE:** Lifting the boat with lifting straps over the prop shafts will cause the shafts to become bent. Always position lifting straps so they are clear of the running gear.



## 1.7 Engine Instrumentation

The helm station is equipped with a set of engine instruments and/or alarms. These instruments allow the pilot to monitor the engine operational conditions. Close observation of these instruments allows the pilot to operate the engines at the most efficient level and could save the engines from serious costly damage. The instrumentation is unique to the type of inboard motors installed on your Pursuit. Some or all of the following gauges may be present.



*Instrument Panel*

### Tachometer

The tachometer displays the speed of the engine in revolutions per minute (RPM). This speed is not the boat speed nor necessarily the speed of the propeller. The tachometer may not register zero with the key in the "OFF" position.



NEVER EXCEED THE MAXIMUM RECOMMENDED OPERATION RPM OF THE ENGINE. MAINTAINING MAXIMUM OR CLOSE TO MAXIMUM RPM FOR EXTENDED PERIODS CAN REDUCE THE LIFE OF THE ENGINE.

### Speedometer

The speedometer indicates the speed of the boat in miles per hour.

### Temperature

The temperature gauge shows the temperature of the engine cooling system. A sudden increase in the temperature could indicate an obstructed water inlet or an impeller failure.



CONTINUED OPERATION OF AN OVERHEATED ENGINE CAN RESULT IN ENGINE SEIZURE. IF AN UNUSUALLY HIGH TEMPERATURE READING OCCURS, SHUT THE ENGINE OFF IMMEDIATELY. THEN INVESTIGATE AND CORRECT THE PROBLEM.

### Oil Pressure Gauge

The oil pressure gauge monitors the engine lubrication system pressure. The oil pressure indicated when the engine is new is usually the reference for normal oil pressure for that engine. A drop in oil pressure is a possible indication of oil pump problems or a leak.

### Fuel Gauge

The fuel gauge indicates the amount of fuel in the fuel tank. This gauge is merely a relative indication of the available fuel supply and not a calibrated instrument.

#### **Voltmeter**

The voltmeter displays the voltage for the battery and the charging system. The normal voltage is 11 to 12 volts with the engine off, and 13 to 14.5 volts with the engine running.

#### **Hour Meter**

The hour meter keeps a record of the operating time for the engine. The hour meters are located in the helm instrument panel or near the battery selector switches in the stern.

#### **Synchronizer Gauge (Optional)**

This synchronizer gauge indicates whether or not the engines are operating in the same RPM. The throttles should be set so the needle is centered.

#### **Rudder Position Indicator**

The rudder position indicator shows the current position of the rudders.

#### **Depth Gauge (Optional)**

The depth gauge indicates the depth of the water below the bottom of the boat.

#### **Fuel Management (Optional)**

Fuel management systems are optional and could be installed on your boat. The fuel management gauge is used to monitor the gallons per hour and also total gallons used. If you have a fuel management system installed on your boat, please refer to the engine or fuel management manual for information on that system.

#### **Engine Alarms**

Most inboard engines are equipped with an audible alarm system mounted in the helm area that monitors selected critical engine systems. The alarm will sound if one of these systems begins to fail. Refer to the engine owner's manual for information on the alarms installed with your engine.



**IF AN ENGINE ALARM SOUNDS, IMMEDIATELY SHUT OFF THE ENGINE UNTIL THE PROBLEM IS FOUND AND CORRECTED.**

#### **Compass**

The compass is on top of the console. To adjust the compass for your area, read the instructions on "Compass Compensation" given to you in the literature packet. The compass cannot be adjusted accurately at the factory because it must be compensated for the influence of the electrical equipment and electronics unique to your boat. Therefore, the compass should be adjusted by a professional after the electronics are installed and before operating the boat.



Compass

**Instrument Maintenance**

Electrical protection for instruments and ignition circuitry is provided by a breaker located on the engine. The ignition switch and instrument wire connectors should be sprayed periodically with a contact cleaner/lubricant. The ignition switch and all instruments, controls, etc. should be protected from the weather when not in use. Excessive exposure can lead to gauge and ignition switch difficulties.

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**PURSUIT.** 3000 EXPRESS

## *Chapter 2:*

# HELM CONTROL SYSTEMS

## 2.1 General

The helm controls consist of three systems: the engine throttle and shift controls, the steering system, and the trim tab control switches. These systems provide the operator with the ability to control the direction and attitude of the boat from the helm station.

Each manufacturer of the control components provides an owner's manual with its product. It is important that you read the manuals and become familiar with the proper care and operation of the control systems.

## 2.2 Engine Throttle and Shift Controls

The shift and throttle controls on your boat may vary depending on the engines used. The following control description is typical of most inboard remote controls. Refer to the engine or control manuals for specific information on the controls installed on your Pursuit.

The helm is designed for a thru-hull style engine throttle and shift control system that typically consists of three major components: the helm throttle and shift controls, the throttle cables and the shift cables. The cables are the push-pull type. Movement of the helm control arm pushes or pulls a cable that operates the engine throttle or transmission control lever. One control arm and cable is required for each engine throttle to control the carburetors (fuel injection systems on diesels and most gasoline engines), and one control arm and cable is required to control each transmission. A typical twin engine inboard will have two throttle controls and two transmission controls at each helm station. Each control is equipped with a means of permitting the engine to be operated at a higher than idle RPM while in neutral for cold starting and warm-up purposes. Some diesel powered boats also may be equipped with a cable throttle friction brake located on the throttle cable near the fuel injection system. The friction brake may be required to overcome the return spring pressure on the fuel injector throttle lever and prevent the throttle from creeping back.

During most operations of a twin engine boat, it is advantageous for both engines to be operated at the same RPM. This reduces noise, and vibration, and can increase engine efficiency. Setting



Controls

the throttles so that the engines are running the same RPM (synchronized) can be done by listening to the engine sounds, or with an engine synchronizer. Attempting to synchronize the engines solely by using the tachometer readings or control lever placement generally will not work. When the engines are in proper synchronization, the throttle levers may not necessarily be even. Please refer to the engine or control manual for more information on the controls installed on your boat.

### 2.3 Engine Synchronizer (Optional)

Your boat could be equipped with an engine synchronizing system. When the system is on, the synchronizer monitors the RPM of each engine and automatically keeps them at the same RPM. When the system is turned off, the unit has no effect on the normal manual throttle operation.

Synchronizers vary in operation from different manufacturers, but generally, the system is activated and deactivated by a switch at the helm. When the synchronizer is on, one master throttle will control the RPM of both engines. Engine synchronizers require specific procedures for engagement and disengagement of the system that must be performed in the proper sequence.

The engine synchronizer manufacturer provides an owner's manual with its product. It is extremely important that you read the manual and become familiar with the proper care and operation of the synchronizer before using it with your boat.

### 2.4 Neutral Safety Switch

Every control system has a neutral safety switch. This device prohibits the engine from being started while the shift levers is in any position other than the neutral position. If the engine will not start, slight movement of the shift lever may be necessary to locate the neutral position and disengage the safety cutoff switch. Control or cable adjustments may be required to correct this condition, should it persist. See your Pursuit dealer for necessary control and cable adjustments.

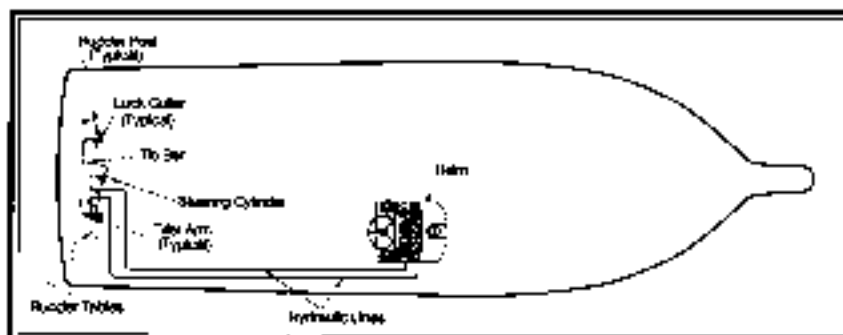
The neutral safety switch should be tested periodically to insure that it is operating properly. To test the neutral safety switch, move the shift levers to the forward position. Make sure the throttle levers are set to the idle position. Activate the starter button for each engine. The starter should not engage for either engine. Repeat this test with the shift levers in reverse and the engine throttles wide. Again the starter should not engage for either engine. If the starter for either engine engages with the shift controls in any position other than the neutral position, then the neutral safety switch is not functioning properly and you should contact your dealer and have the neutral safety switch repaired before using your boat. If an engine starts in gear during this test, immediately move the shift levers to the neutral position. Turn the engines off and have the problem corrected by a qualified marine mechanic before using the boat.

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IN SOME SITUATIONS, IT MAY BE POSSIBLE TO ACCIDENTALLY START THE ENGINES IN GEAR WITH THE THROTTLES ABOVE IDLE IF THE NEUTRAL SAFETY SWITCH IS NOT OPERATING PROPERLY. THIS WOULD CAUSE THE BOAT TO ACCELERATE UNEXPECTEDLY IN FORWARD OR REVERSE AND COULD RESULT IN LOSS OF CONTROL, DAMAGE TO THE BOAT, OR INJURY TO PASSENGERS. ALWAYS TEST THE NEUTRAL SAFETY SWITCH PERIODICALLY AND CORRECT ANY PROBLEMS BEFORE USING THE BOAT.

## 2.5 Steering System



Steering System (For detailed schematic, see Chapter 15)

The steering system is hydraulic and made of two main components: the helm assembly and the hydraulic cylinder. The helm unit acts as both a fluid reservoir and pump. Turning of the helm, or steering wheel, pumps the fluid in the hydraulic hoses and activates the hydraulic cylinder causing the rudders to turn. A slight clicking sound may be heard as the wheel is turned. This sound is the opening and closing of valves in the helm unit and is normal. Refer to the manufacturer owner's manual for specific information on the steering system.

Dual engine inboard boats have two rudders. These are coupled together at the tiller arms by a tie bar. The rudders are toed-in  $1/2$ " at the front to provide maximum stability on straight ahead runs and proper tracking through corners. Rudder or steering system damage may require the rudders to be realigned.

## 2.6 Trim Tabs

The trim tabs are recessed into the hull on the transom. A dual rocker switch is used to control the trim tabs. The switch is labeled and controls bow up and down movements. It also controls starboard and port up and down movements. Bow up and bow down will control the hull planing attitude, while port and starboard up and down provides control for the hull listing.

Before leaving the dock, make sure that the tabs are in the full "UP" position by holding the control in the bow up position for ten (10) seconds.

Always establish the intended heading and cruise speed before attempting to adjust the hull attitude with the trim tabs. After stabilizing speed and direction, move the trim tabs to achieve a level side in siderrunning situations being careful not to over trim.



Trim Tab Switch

After depressing a trim tab switch, always wait a few seconds for the change in the trim plane to take effect. **Avoid depressing the switch while awaiting the trim plane reaction.** By the time the effect is noticeable the trim tab plane will have moved too far and thus the boat will be in an overcompensated position.

When running at a speed that will result in the boat falling off plane, lowering the tabs slightly, bow down, will improve the running angle and operating efficiency. Too much bow down tabs can reduce operating efficiency and cause substantial steering and handling difficulties.

Be extremely careful when operating in a following sea. The effect of trim tabs is amplified under such conditions. Steering and handling difficulties can result from improper trim tab usage, particularly on a following sea. Always raise the tabs to the full bow up position in these conditions.

**When running at high speeds be sure that the tabs are in the full "UP" position.** Only enough trim plane action should be used to compensate for any listing. Trim tabs are extremely sensitive at high speeds. Adjust for this and be prepared to slow down if difficulties arise.

When running into a chop, a slight bow down attitude will improve the ride. Be careful not to over trim. Handling difficulties may result.



Trim Tab Plate



## 2.7 Control Systems Maintenance

### Control Maintenance

Periodic inspection of the control systems and all connections should be made. Signs of rust, corrosion, wear, or other deterioration should be serviced immediately. Generally, periodic lubrication of all moving parts and connections with a light waterproof grease is in order.

Lubrication should be performed as often as necessary to keep the system operating smoothly.

Control system adjustments may become necessary. If adjustment becomes necessary, see your Pursuit dealer.



**DO NOT ATTEMPT CONTROL SYSTEM ADJUSTMENTS UNLESS YOU ARE FAMILIAR WITH CONTROL SYSTEM SERVICING PROCEDURES. MISADJUSTMENT CAN CAUSE LOSS OF CONTROL AND SEVERE ENGINE OR TRANSMISSION DAMAGE.**

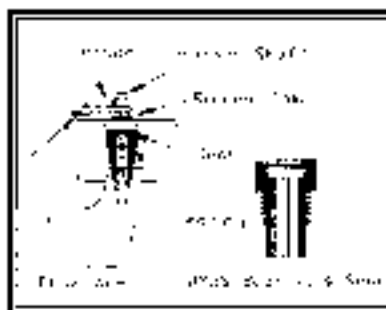
### Steering System Maintenance

A periodic inspection of all steering hoses, linkage and helm assemblies should be made. Signs of corrosion, cracking, loosening of fastenings, excessive wear, or deterioration should be corrected immediately. The fluid level for the hydraulic steering should be checked frequently and maintained at the proper level. Generally, periodic lubrication of all moving parts and connections with a light waterproof grease is in order. Failure to do so could lead to steering system failure that would result in loss of control.

When new, or after repairs, hydraulic steering systems may need to have all air purged from the system. Review the information provided by the steering manufacturer for proper specifications and details on system service and maintenance.

The helm also should be inspected periodically for leakage around the rudder ports. The rudder ports contain a lip seal that provides 100% water tight operation. The seals are self-lubricating and require no maintenance. If a rudder part is found to be leaking, please contact your Pursuit dealer or the Pursuit Customer Relations Department.

If the rudders have to be removed for any reason, the red plastic seal protector must used to prevent the keyway in the rudder shaft from damaging the lip seal in the rudder part. The seal protectors are installed on the rudder shaft above the rudder port.



*Rudder and Rudder Port*

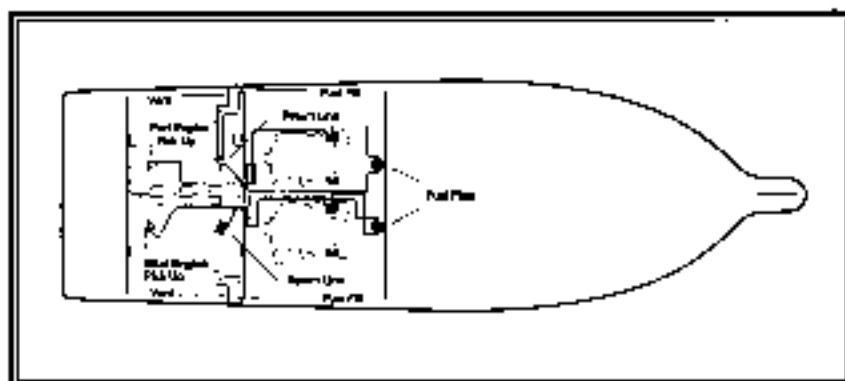
### **Trim Tab Maintenance**

Marine growth can interfere with the proper operation of the trim tab planes and actuators. To reduce problems due to marine growth, always return the trim tabs to the full "UP" position after operating the boat and periodically inspect and clean marine growth from the actuators and planes.

The trim tab fluid should be checked often. Keep the fluid level between the marks on the trim tab pump reservoir.

The trim tabs are equipped with a zinc anode and bonded to the transom zinc anode to prevent galvanic corrosion. Refer to the trim tab owner's manual for additional maintenance information, fluid specifications and operating instructions.

## Chapter 3: FUEL SYSTEM



*Fuel System*  
(For a detailed schematic, see Chapter 15)

### 3.1 General

The fuel system used in Pursuit boats is designed to meet or exceed the requirements of the U.S. Coast Guard, the Boating Industry Association, and The American Boat and Yacht Council in effect at the time of manufacture.

All gasoline and diesel fuel systems have been factory inspected and pressure tested in accordance with regulations in effect at the time of manufacture. This inspection assures that the system is air tight, leak proof and safe. It is the responsibility of the purchaser to maintain it in that condition. Make frequent inspections to assure that no deterioration or loosening of connections is resulting from vibration.



DO NOT LET THE ODOR OF GASOLINE GO UNCHECKED. ANY ODOR OF GASOLINE MUST BE INVESTIGATED IMMEDIATELY AND STEPS TAKEN TO PROTECT THE BOAT AND ITS OCCUPANTS UNTIL THE PROBLEM IS CORRECTED. IF THE ODOR OF GASOLINE IS NOTED, SHUT OFF ALL ENGINES AND ELECTRICAL EQUIPMENT. INVESTIGATE AND CORRECT THE SITUATION IMMEDIATELY. HAVE ALL PASSENGERS PUT ON PERSONAL FLUTATION DEVICES AND KEEP FIRE EXTINGUISHERS READY UNTIL THE SITUATION IS RESOLVED.

### **Fuel Withdrawal Tubes**

The fuel withdrawal tubes are positioned in the fuel tanks to achieve optimum fuel usage, fuel line routing, etc. At certain speeds and hull trim angles, the fuel supply at the withdrawal tank location can increase or decrease accordingly. Be extremely careful when attempting to operate the boat when low on fuel. Though some fuel may be in the tank, the relative trim angle of the boat may cause the fuel to flow away from the withdrawal tubes.

### **Fuel Gauge**

This indicates the amount of fuel in the tanks. Due to the mechanical nature of the fuel sender, variations in readings during various speeds of operation may occur. This system is merely a relative indication of the available fuel supply and not a calibrated instrument. A fuel gauge is located in the gauge cluster for each engine.

### **Fuel Fills**

A fuel fill deck plate is located on each gunnel, and is marked "GAS" or "DIESEL." The fuel fill is opened by turning it counter clockwise with a special key. After fueling, install the fuel cap and tighten with the key. Be sure to use the proper type and grade fuel. Refer to the engine owner's manual for additional information.



*Fuel Fill*

**Note:** Do not overtighten the fuel cap. If the cap is overtightened, the O-ring seal could be damaged allowing water to contaminate the fuel system.



**DO NOT CONFUSE FUEL FILL DECK PLATES WITH THE WATER OR WASTE FILL DECK PLATES. THESE PLATES ALSO ARE LABELED ACCORDINGLY. IF GASOLINE OR DIESEL FUEL IS ACCIDENTALLY PUMPED INTO THE WATER OR WASTE TANK, DO NOT ATTEMPT TO PUMP IT OUT YOURSELF. WATER AND WASTE PUMPS ARE NOT DESIGNED TO PUMP FUEL, AND A FIRE OR EXPLOSION COULD RESULT. CONTACT YOUR DEALER OR THE PURSUIT CUSTOMER RELATIONS DEPARTMENT FOR ASSISTANCE IN HAVING THE FUEL PROFESSIONALLY REMOVED.**

### **Fuel Vents**

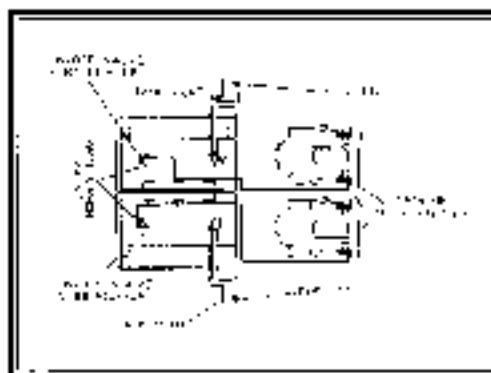
There are two fuel vent fittings, one on each side of the hull. While the tank is being filled, the air displaced by the fuel escapes through the vent. When the tank is full, fuel will be ejected from the fuel vent.

After fueling, replace the fill cap(s), and wash the areas around the fuel fill plates and below the fuel vent(s). Residual fuel left on the deck and hull sides can be dangerous and will yellow the fiberglass or damage the striping.

## 3.2 Gasoline Engine Fuel System

The fuel system on the Pursuit 3000 Express has two fuel tanks and two manual fuel valves. The port tank fills from the port gunnel and the starboard tank fills from the starboard gunnel.

There is one "ON/OFF" valve for each engine fuel line. The fuel valves are located on the fuel tanks. The valves are off when the handle is perpendicular to the fuel flow. They should always be turned off before servicing the fuel filters or any other component of the fuel system.



Fuel Valve

The starboard engine is supplied by the starboard fuel tank and the port engine is supplied by the port fuel tank. There are no valves that allow the selection of the fuel tanks. This is because some engines with fuel injection circulate much more fuel than they consume to cool the fuel and reduce the possibility of a vapor lock. Some fuel injected gasoline engines return the unburned fuel to the fuel tanks, while other fuel injected engines return the fuel to a vapor separating tank on the engine. If the unburned fuel is returned to the fuel tanks, it is extremely important that it is returned to the same tank that is supplying the engine. This eliminates the possibility of fuel being supplied by one fuel tank and returned to the other tank, a situation which could cause one of the fuel tanks to become overfilled and fuel to flow out the fuel tank vents. Please refer to the engine owner's manual for specific information for the fuel system used on the engines installed in your boat.

Fuel withdrawal lines are equipped with anti-siphon valves where the lines attach to the fuel tanks. These valves prevent gasoline from siphoning out of the fuel tank should a line rupture.



**DO NOT REMOVE THE ANTI-SIPHON VALVES FROM THE SYSTEM. SHOULD AN ANTI-SIPHON VALVE BECOME CLOGGED, CLEAN AND REINSTALL OR REPLACE. IF A FUEL LINE SHOULD LEAK, ANTI-SIPHON VALVES PREVENT A SUBSTANTIAL AMOUNT OF FUEL FROM FLOWING INTO THE HULL. ANTI-SIPHON VALVES ARE REQUIRED, BY THE U.S. COAST GUARD, TO BE INSTALLED IN ALL BOATS EQUIPPED WITH GASOLINE ENGINES.**

#### Gasoline Fuel Filter

Each gasoline engine is equipped with a spin-on, water separator type fuel filter. The filter should be checked frequently and changed at least annually to assure an adequate supply of clean, dry fuel to the engine. It is recommended that the filters are inspected after the first 25 hours of use and then serviced as needed. Follow the engine or filter manufacturer's instructions for servicing or replacing the fuel filter.

**Note:** Clean fuel is especially important in fuel injected engines, and the engine manufacturer's recommendations for fuel filter maintenance must be followed exactly.



Fuel Filter



TO REDUCE THE POSSIBILITY OF A FIRE OR EXPLOSION, MAKE SURE ALL ELECTRICAL SWITCHES ARE IN THE "OFF" POSITION BEFORE SERVICING THE FUEL SYSTEM.



DO NOT DRAIN ANY FUEL IN THE RIDGE. THIS COULD LEAD TO A FIRE OR EXPLOSION.



CHECK ALL FUEL LINE FITTINGS FOR LEAKS BEFORE AND AFTER STARTING THE ENGINE FOLLOWING ANY FUEL SYSTEM SERVICE.



BEFORE STARTING THE ENGINE, ALWAYS OPEN ALL HATCHES, WINDOWS, AND DOORS AND RUN THE BLOWER FOR AT LEAST FIVE (5) MINUTES TO COMPLETELY VENTILATE THE BOAT AFTER SERVICING THE FUEL SYSTEM.

### 3.3 Diesel Engine Fuel System

The diesel fuel system works much like the gas system. The main difference is the diesel system is not equipped with anti-siphon valves, and there is always a fuel return line for the engine that returns unused fuel to its respective fuel tank.

Proper diesel engine operation requires a good supply of clean, dry diesel fuel. Improper marina fuel storage techniques, limited boat usage, etc. can cause the fuel to become contaminated. Periodically, it may be necessary to pump accumulating water and contaminated fuel from the bottom of the fuel tanks. If the fuel system on your boat becomes contaminated, contact your dealer or the Pursuit Customer Relations Department for assistance.

Algae can grow in the accumulated water in diesel fuel tanks. This condition is most prevalent in warm climates. Periodically adding a high quality diesel fuel additive containing an algicide may be required to control algae in your boating area. Please contact your Pursuit dealer or engine manufacturer for additional information regarding fuels and additives.

**IMPORTANT:** Do not allow the boat to sit unused for an extended period with the fuel tanks less than full. Changes in temperature and weather conditions can cause condensation in fuel tanks that are less than 3/4 full.

#### Diesel Fuel Filters

The diesel fuel filters are installed in the engine compartment near the engines. Some diesel fuel filters can be equipped with a sensor that will sound an alarm if too much water accumulates in the filter. A shut-off valve for each fuel line is located on the fuel tanks. The fuel line shut-off valves should always be closed before servicing the fuel filters. Check the filters for water before each use and replace the filter cartridge as needed.

Water is drained from the filters by placing a cup under the filter and draining through the petcock at the bottom of the filter until clean fuel flows. It is particularly important to monitor the condition of the fuel filters frequently because most diesel engines circulate much more fuel than they consume. Because of the volume of fuel that flows through the filters, the elements must be changed at least twice a season or more frequently depending on the quality of the fuel and the hours run. Follow the filter or engine manufacturer's instructions for cleaning and replacing the filter elements.

**IMPORTANT:** Diesel fuel systems may need to be primed after servicing. Refer to the engine owner's manual for information on priming the fuel system.

### 3.4 Fueling Instructions



FUEL IS VERY FLAMMABLE AND CAN CAUSE A FIRE OR AN EXPLOSION. BE CAREFUL WHEN FILLING THE FUEL TANKS. NO SMOKING. NEVER FILL THE TANKS WHILE THE ENGINES ARE RUNNING. FILL THE FUEL TANKS IN AN OPEN AREA. DO NOT FILL THE TANKS NEAR OPEN FLAMES.



TO PREVENT DAMAGE TO THE FUEL SYSTEM, USE ONLY A GOOD GRADE OF GASOLINE FOR GASOLINE ENGINES OR DIESEL FUEL FOR DIESEL ENGINES. DO NOT USE A FUEL THAT CONTAINS HARSH ADDITIVES OR IS AN ALCOHOL BLEND. ANY DAMAGE DONE TO THE FUEL SYSTEM THAT IS THE RESULT OF USE OF AN ALCOHOL BLEND, IS NOT COVERED BY THE PURSUIT WARRANTY. REFER TO THE ENGINE MANUFACTURER OWNER'S MANUAL REGARDING FUEL REQUIREMENTS FOR YOUR ENGINE.

To fill the fuel tanks at a marina, follow this procedure:

1. Make sure all switches are in the "OFF" position.
2. Make sure the boat is securely moored.
3. Make sure all passengers leave the boat.
4. Estimate how much fuel is needed.

**Note:** When the fuel tank is full, fuel will come out through the fuel tank vent. The fuel tank vents are located on the side of the boat. Monitor the vents closely, while fueling, to prevent fuel from spilling into the water.

5. A special key to open the fuel caps is supplied.
6. Turn the key counter clockwise to open the cap.
7. Remove the cap.
8. Put the nozzle in the fuel opening.





STATIC ELECTRICITY CAN BE GENERATED WHILE FUELING AND CAN CAUSE A FIRE OR EXPLOSION. TO PREVENT STATIC SPARKS WHEN FILLING THE TANK, MAKE SURE THE NOZZLE IS IN CONTACT WITH THE FUEL OPENING.



SPILLED FUEL CAN CAUSE A FIRE OR AN EXPLOSION. MAKE SURE YOU DO NOT SPILL ANY FUEL. IF A SMALL AMOUNT OF FUEL IS SPILLED ON THE DECK, USE A CLOTH TO REMOVE THE FUEL, AND PROPERLY DISPOSE OF THE CONTAMINATED CLOTH. IF FUEL IS SPILLED ON THE WATER, EXERCISE EXTREME CAUTION. FUEL FLOATS ON THE SURFACE OF THE WATER AND CAN IGNITE. IF FUEL IS SPILLED INTO THE WATER, IMMEDIATELY EVACUATE THE AREA AND NOTIFY THE MARINA AND THE PROPER OFFICIALS.

9. Fill the tank slightly less than the rated capacity to avoid spilling fuel out of the vent or the fuel fill and to allow for expansion.
10. Remove the nozzle.
11. Install the fuel cap.
12. Open all hatches, windows and doors. Run the blower for at least five minutes to completely ventilate the boat.
13. Check the fuel compartment and below the deck for fuel odors. If you smell fuel, do not start the engine.



BEFORE STARTING THE ENGINES, ALWAYS OPEN ALL HATCHES, WINDOWS, AND DOORS. RUN THE BLOWER FOR AT LEAST FIVE (5) MINUTES TO COMPLETELY VENTILATE THE BOAT AFTER SERVICING THE FUEL SYSTEM.



TO REDUCE THE RISK OF A FIRE AND/OR EXPLOSION, DO NOT START THE ENGINES WHEN FUEL SPILLS ARE PRESENT. FUEL PUMPS ARE DANGEROUS AND HARMFUL TO YOUR HEALTH. MAKE SURE ALL GASOLINE ODORS ARE INVESTIGATED IMMEDIATELY.

### 3.5 Fuel System Maintenance

Periodically inspect all connections, clamps and hoses for leakage and damage or deterioration. Replace as necessary. Spray the valves, tank, fuel gauge sender and ground connections with a metal protector.

Frequently inspect and lubricate the fuel fill cap O-ring seal with petroleum jelly. The O-ring seal prevents water from entering the fuel system through the fuel fill cap and it should be replaced immediately if there is any sign of damage or deterioration.

Contaminated fuel may cause serious damage to your engines. The filters must be checked for water and other contamination frequently. The filter elements must be changed at least once a season or more frequently depending on the type of engine and the quality of the fuel. Please refer to the engine or fuel filter manufacturer's instructions for information on servicing and replacing the fuel filter elements.

The age of gasoline can affect engine performance. Chemical changes occur as the gasolene ages that can cause deposits and varnish in the fuel system as well as reduce the octane rating of the fuel. Severely degraded fuel can damage the engine and boat fuel tank and lines. Therefore, if your boat is not being run enough to require at least one full tank of fresh fuel a month, a fuel stabilizer should be added to the gasoline to protect the fuel from degradation. Your dealer or the engine manufacturer can provide additional information on fuel degradation and fuel stabilizers recommended for your engine.

Avoid using fuels with alcohol additives. Gasoline that is an alcohol blend will absorb moisture from the air which can reach such concentrations that "phase separation" can occur whereby the water and alcohol mixture becomes heavy enough to settle out of the gasoline in the bottom of the tank. Since the fuel pick up tube is very near the bottom of the tank, phase separation can cause the engine to run very poorly or not at all. This condition is more severe with methyl alcohol and will worsen as the alcohol content increases. Water or a jelly like substance in the fuel filters are an indication of phase separation from the use of alcohol blended fuels.



**DO NOT DRAIN ANY FUEL INTO THE BILGE. THIS COULD LEAD TO A FIRE OR EXPLOSION.**



**AFTER THE FILTER ELEMENT HAS BEEN CHANGED, PRIME THE FUEL SYSTEM AND CHECK ALL FITTINGS FOR LEAKS BEFORE AND AFTER STARTING THE ENGINES.**

**BEFORE STARTING THE ENGINES, ALWAYS OPEN ALL HATCHES, WINDOWS, AND DOORS AND RUN THE BLOWER FOR AT LEAST FIVE (5) MINUTES TO COMPLETELY VENTILATE THE BOAT AFTER SERVICING THE FUEL SYSTEM.**

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## BOATING ACCIDENT REPORT

Under No. 2 Collision with up to 4 other additional boats					
DECEASED					
NAME	ADDRESS	DATE OF BIRTH	WAS DECEASED? <input type="checkbox"/> DECEASED <input type="checkbox"/> NOT DECEASED	DEATH CAUSED BY <input type="checkbox"/> DROWNING <input type="checkbox"/> OTHER	WAS PROTECTED? <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME	ADDRESS	DATE OF BIRTH	WAS DECEASED? <input type="checkbox"/> DECEASED <input type="checkbox"/> NOT DECEASED	DEATH CAUSED BY <input type="checkbox"/> DROWNING <input type="checkbox"/> OTHER	WAS PROTECTED? <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME	ADDRESS	DATE OF BIRTH	WAS DECEASED? <input type="checkbox"/> DECEASED <input type="checkbox"/> NOT DECEASED	DEATH CAUSED BY <input type="checkbox"/> DROWNING <input type="checkbox"/> OTHER	WAS PROTECTED? <input type="checkbox"/> YES <input type="checkbox"/> NO
INJURED					
NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY	MEDICAL TREATMENT	
NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY	MEDICAL TREATMENT	
NAME	ADDRESS	DATE OF BIRTH	NATURE OF INJURY	MEDICAL TREATMENT	
ACCIDENT DESCRIPTION					
DESCRIBE WHAT HAPPENED (Sequence of events, location, date of equipment, if known, is needed, attach reports). Continue on additional sheets if necessary. Include up to three pages regarding the identification of skippers (including a liability or contributing to the accident). Include up to three pages of information about details of PFD's.					
WITNESSES (Name, address, telephone number)					
Name of Skipper	Address			Telephone Number	
Telephone Number				Boat Name	
Name of Driver	Address			Telephone Number	
ATTORNEYS					
Name	Address			Telephone Number	
Name	Address			Telephone Number	
Name	Address			Telephone Number	
HOSPITALS					
Name	Address			Telephone Number	
DEQUALIFICATION (Check box) <input type="checkbox"/> Operator <input type="checkbox"/> 15-year <input type="checkbox"/> Investigator <input type="checkbox"/> Other				Date Reported	
FOR REPORTING AUTHORITY REVIEW (see page 2 of this report)					
Checked based on items listed: <input type="checkbox"/> No response <input type="checkbox"/> Investigation completed <input type="checkbox"/> Investigation pending <input type="checkbox"/> Could not be determined			Name of Reporting Official		Time Reported
Priority Class of Accident			Signature/Class of accident		Forwarded By

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**PURSUIT. 3000 EXPRESS**

## *Chapter 4:* **ELECTRICAL SYSTEM**

### **4.1 General**

Your Pursuit is equipped with 110-volt AC and 12-volt DC electrical systems. The AC system can draw current from one of two sources, either shore power outlets at dock side or the optional generator. The DC system draws current from on board batteries.

The 12-volt batteries in your boat are usually the lead-acid type. They will require similar maintenance as those found in automobiles.

There are electrical schematics included in the manual to aid in following an individual circuit of the boat.

### **4.2 12-Volt System**

The 12-volt system is a fairly standard marine system. There are three batteries, one for the starboard engine, one for the port engine and a house or accessory battery. The batteries themselves can be charged by the engines or by the battery charger when hooked to shore power or when operating the optional generator. An automatic 12-volt current control system called the Power Plant<sup>®</sup> manages the charging current for the 12-volt system whenever the engines are running. The power plant automatically senses the condition of each battery and directs the available current to the batteries that require charging. The system is equipped with a battery parallel feature that will connect all three batteries in parallel for extra battery power while starting the engines. The battery parallel switch is a momentary switch located in the helm switch panel that is labeled either "Accessory" or "Parallel." A red LED light on the front of the Power Plant indicates that the parallel switch is activated. Please refer to the Power Plant owner's manual for additional information on the operation and maintenance of this system.

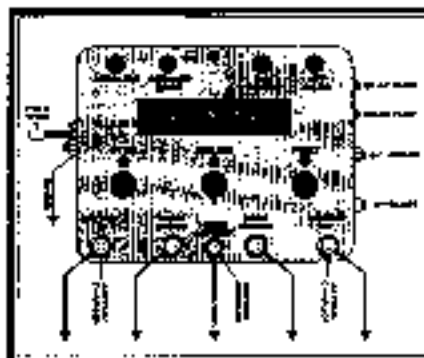
All 12-volt power is distributed to the 12-volt accessories through individual circuit breakers located on the 12-volt breaker panel in the cabin. A main breaker located on the front of the Power Plant, between the battery and the panel, protects the system from an overload. Other circuit breakers, located on the front of the Power Plant, protect the circuit for the optional windlass, the main DC power and the automatic float switches for the aft and forward bilge pumps. The engine main breakers, located on each engine protect the ignition systems and gauges. Some 12-volt accessories are operated directly by a circuit breaker in the cabin breaker panel while others are operated by a switch fed by the panel breakers. Most of the 12-volt accessories on the deck and cockpit are operated by switches in the helm and accessory switch panels.



PROPER FUSE OR BREAKER PROTECTION MUST BE PROVIDED FOR ALL 12-VOLT EQUIPMENT ADDED. DO NOT OVERLOAD THE ACCESSORY CIRCUIT BREAKERS OR OTHER CIRCUITRY THROUGH ADDITIONAL 12-VOLT EQUIPMENT.

#### Battery Switches

There are three "ON" - "OFF" battery switches located on the front of the Power Plant. The switches are activated using special keys that are attached to the Power Plant. The port battery switch is labeled "Port" and activates the port engine, the starboard battery switch is labeled "Starboard" and activates the starboard engine and the center battery switch is labeled "House" or "Auxiliary" and activates the 12-volt breaker panel in the cabin and all other 12-volt accessories. Make sure that all three switches are activated whenever the engines are running to insure that all 12-volt accessories will operate when they are needed. Red LED lights above each switch indicate that the switch is on.



*Power Plant*

The Power Plant controls the charging of all three batteries whenever one or both of the engines is operating. When one or both engines is started, the engine alternator(s) start to recharge the batteries. This charging current passes through the Power Plant sensing circuit. This circuit senses the charge and switches relays to connect the "Auxiliary" or "House" battery in parallel with the engine batteries. Thus the charge from the engine(s) is split between the batteries with the lowest battery receiving the most charge. When the engines are turned off, the charging stops and the sensing circuit turns off the relays, disconnecting the "Auxiliary" or "House" battery from the cranking batteries, thereby automatically isolating the batteries from one another.

When in port near anchor, the switch that supplies the port engine and the switch that supplies the starboard engine should be off. Only the center battery switch that activates the "Auxiliary" or the "House" battery should be on. This will keep the engine starting batteries in reserve for starting the engines. All three battery switches should be in the "OFF" position when leaving the boat unattended.

**Note:** Current is supplied to the automatic float switches for the bilge pumps when the batteries are connected and the battery switches are off.

### **12-Volt Accessory Switch Panel**

The main accessory switch panel is located at the helm. The circuit breakers that protect the accessories are located in another panel on the helm below the switches.

The following is a description of the accessories controlled by the main accessory switch panel:

#### **Port Ignition Switch**

The port ignition switch is a red, three-position switch, located in the helm just below the gauges, which activates the port engine. The switch has an off, on and momentary start position. To start the engine, make sure the shift lever is in the neutral position and your hand is on the throttle lever in the idle position. Press the switch to the start position. When the engine starts release the switch and it will automatically return to the run position. Stop the engine by pressing the switch to the off position. It is protected by a breaker located in the helm breaker panel and a main breaker located on the engine.

#### **Starboard Ignition Switch**

The starboard ignition switch is a red, three-position switch, located in the helm just below the gauges, which activates the starboard engine. The switch has an off, on and momentary start position. To start the engine, make sure the shift lever is in the neutral position and your hand is on the throttle lever in the idle position. Press the switch to the start position. When the engine starts, release the switch and it will automatically return to the run position. Stop the engine by pressing the switch to the off position. It is protected by a breaker located in the helm breaker panel and a main breaker located on the engine.

#### **Helm**

Activates the boat horn. It is protected by a 10-amp breaker.

#### **Anchor/Nav Lights**

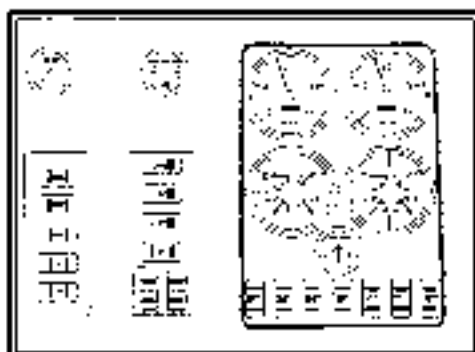
The switch is a three-position switch. The middle position is "OFF." Moving the switch in one direction will activate the navigation lights. Moving the switch in the opposite direction activates the anchor light. It is protected by a 5-amp breaker.

#### **Engine Room Lights**

Activates the lights that illuminate the engine room. It is protected by a 5-amp breaker.

#### **Cockpit Lights**

Activates the lights that illuminate the cockpit area. It is protected by a 5-amp breaker.



*12-Volt Accessory Switch Panel*

#### Spreader Lights

Activates the flood lights located on the optional radar arch or hardtop. These lights provide additional lighting for the rear of the cockpit. It is protected by a 15-amp breaker.

#### Bilge Blower

This switch supplies electrical current to the blower that provides ventilation to the engine compartment prior to start up and while operating below cruise speed. It is protected by a 10-amp breaker.



**GASOLINE VAPORS CAN EXPLODE. BEFORE STARTING THE ENGINES, OPERATE THE ENGINE COMPARTMENT BLOWER FOR FIVE (5) MINUTES, OPEN THE ENGINE HATCH, INSPECT THE FUEL SYSTEM AND CHECK THE ENGINE COMPARTMENT FOR THE ODOR OF GASOLINE VAPORS. ALWAYS OPERATE THE BLOWER WHILE THE ENGINE IS AT IDLE AND BELOW CRUISE SPEED. UNDER NO CIRCUMSTANCES SHOULD THIS PROCEDURE BE OVERLOOKED.**

**Note:** Please refer to the DANGER and CAUTION notations in the Ventilation System.

#### Fwd Bilge Pump

Activates the forward bilge pump which is installed in the engine compartment bilge. The pump moves water out through the thru-hull fitting in the hull. To start the pump manually, put the switch in the "ON" position. It is protected by a 10-amp breaker.

#### Aft Bilge Pump

Activates the stern bilge pump which is installed in the rear center of the bilge. The pump moves water out through the thru-hull fitting in the hull. To start the pump manually, put the switch in the "ON" position. It is protected by a 10-amp breaker.

**Note:** The bilge pumps will start automatically when there is sufficient water in the bilge to activate the float switches. The float switches are protected by 10-amp circuit breakers located on the Power Plant and are always supplied current when the batteries are connected.

#### Panel Lights

Activates the engine gauge and compass lights. It is protected by a 5 amp breaker.

#### Wiper

Activates windshield wipers.

#### Trim Tab Switch

Located in the helm. This switch controls the trim tab plates located on the transom of the boat. It is protected by the 20-amp breaker. Please refer to Chapter 2 for detailed information on the operation of the trim tab controls.



#### **Accessory Switches (A)**

These switches are supplied to protect additional equipment that may or may not have been installed by Pursuit or your Pursuit dealer. If no accessories are activated by these switches, they remain wired in the panel in reserve. Some accessories that may be connected to the accessory switches are: The hardtop lights, battery parallel switch or electronics. They are protected by 15-amp breakers.

#### **Additional Accessory Switch Panels**

Additional switch panels are located in various locations in the cockpit and helm area of the boat. Most of these panels are equipped with one switch and one circuit breaker. The following is a description of additional panels that may be on your Pursuit and the necessities they control.

#### **Baitwell Switch**

Located under the gunwale in the cockpit, this switch activates the baitwell circulating pump that supplies water to the baitwell. It is protected by a 10-amp breaker.

#### **Washdown Pump**

Located under the gunwale in the cockpit, this switch activates the raw water washdown pump. The pump is the pressure demand type and is protected by a 10-amp breaker.

**Note:** Please refer to the Raw Water System chapter for more information on the baitwell and washdown systems.

#### **FishBox Mincerator Pump**

The fishbox mincerator switch panel is located in the rear of the cockpit near the transom door. It is a momentary switch that activates the overboard mincerator discharge system for the fishbox. It is protected by a 20-amp breaker.

#### **Windlass Switch**

The windlass switch is located in the helm. This switch controls the optional windlass which is mounted to the deck directly above the rope locker. It is protected by a circuit breaker of the type and rating recommended by the windlass manufacturer.

#### **12-Volt Receptacle**

Provides electrical current for portable 12-volt equipment. It is protected by a 20-amp breaker.

#### **Holding Tank Macerator**

The holding tank overboard discharge macerator switch panel is located in the engine compartment near the macerator pump on the rear engine compartment bulkhead. It is a momentary switch that activates the overboard macerator discharge system for the holding tank. Refer to the Marine Head System in the Interior Equipment chapter for additional information on the operation of the overboard macerator discharge system. It is protected by a 20-amp breaker.



*Macerator Switch*

#### **Engine Hatch**

The engine hatch control panel is located in the cockpit. It is a momentary switch that controls the electric actuator for the engine hatch. It is protected by a 25-amp breaker. Refer to the Exterior Equipment chapter for additional information on the engine hatch lifter.

#### **Cabin DC Accessory Breaker Panel**

Power is distributed to most of the 12-volt accessories through individual circuit breakers located in the cabin DC breaker panel. A main breaker located on the Power Plant protects the system from an overload. Some 12-volt accessories are operated directly by the circuit breaker in the panel while others are operated by switches fed by the panel breakers.



*DC Breaker Panel*

A DC voltage meter is located in the panel to measure the voltage level in the batteries. It will monitor the voltage of the house battery plus any electrical charges supplied to it when the engines or the battery charger are operating.



**PROPER FUSE OR BREAKER PROTECTION MUST BE PROVIDED FOR ALL 12-VOLT EQUIPMENT ADDED. DO NOT OVERLOAD THE ACCESSORY CIRCUIT BREAKERS OR OTHER CIRCUITRY THROUGH ADDITIONAL 12-VOLT EQUIPMENT.**

The following is a description of the accessories controlled by the cabin DC breaker panel:

#### **12-Volt Main**

Supplies the 12-volt circuit to the cabin DC breaker panel and protects the panel from an overload.

**Stereo**

Supplies 12-volt electrical current to the stereo.

**TV/VCR**

Supplies 12-volt electrical current to the TV and accessory plug in the cabin, when this option is installed.

**Electric Head**

Supplies electrical current directly to the switch which controls the vacuum pump on the electric head.

**Electronics**

Reserved for electronics installations.

**Hatch Lifter**

Supplies 12-volt electrical current to the hatch lifter control switch located in the cockpit.

**DC Refrigerator**

Supplies 12-volt electrical current directly to the refrigerator when 110-volt current is not being used.

**Fresh Water System**

Supplies 12-volt electrical current directly to the fresh water pump pressure switch located on the pump. The pressure switch automatically controls the water pump when the system is activated and properly primed.

**Macerator- Head**

Supplies electrical current to the switch, that controls the macerator overboard discharge pump for the holding tank. This breaker should be in the "OFF" position except when pumping out the holding tank.

**Helm Main**

Supplies 12-volt electrical current to the breakers and switches in the helm switch panel.

**Cabin Lights**

Supplies 12-volt electrical current to the cabin light switches.

**Carbon Monoxide Detector**

Supplies 12-volt electrical current to the carbon monoxide detector in the cabin. This is a "push to reset" breaker that is normally on all the time unless tripped by an overload when activated by the house battery switch on the Power Plant. It should be checked, and the power indicator on the carbon monoxide detector should be lit whenever someone is occupying the cabin. If the breaker has tripped, there is a problem with the carbon monoxide detector, the breaker, or the wiring from the breaker panel to the detector. Always determine the cause of the problem and correct it before resetting the breaker.



**CARBON MONOXIDE IS A LETHAL, TOXIC GAS THAT IS COLORLESS AND ODORLESS. IT IS A DANGEROUS GAS THAT WILL CAUSE DEATH IN CERTAIN LEVELS.**

#### **Shower Sump**

Supplies 12-volt electrical current directly to the cabin drain float switch which automatically controls the cabin drain and shower sump pumps. This is a "push to reset" breaker that is normally on all the time unless tripped by an overload. Make sure this breaker is on before using the cabin sinks.

**Accessory** Reserved for additional 12-volt equipment on the windlass breaker

**Accessory** Reserved for additional 12-volt equipment

**Accessory** Reserved for additional 12-volt equipment

#### **Additional Breakers and Switches**

##### **Windlass**

The windlass breaker is located on the Power Plant below the companionway steps. Push the button on the breaker in to activate the windlass control switch and pull it out to return the breaker to "OFF" whenever the windlass is not in use. Turning off this breaker when the windlass is not in use will reduce the possibility of accidentally activating the windlass. It provides 25-amp protection.

##### **Forward Bilge**

The forward bilge pump breaker is located on the Power Plant and provides protection for the automatic float switch on the forward bilge pump. Another breaker in the helm provides circuit protection for the manual switch. Both provide 10-amp protection.

##### **Aft Bilge**

The aft bilge pump breaker is located on the Power Plant and provides protection for the automatic float switch on the aft bilge pump. Another breaker in the helm provides circuit protection for the manual switch. Both provide 10-amp protection.

##### **DC Power**

The DC power breaker is located on the Power Plant and provides protection for all DC power to the Cabin DC breaker panel. It provides 70-amp protection.

##### **Engine Circuit Breakers**

There are circuit breakers located on each engine that provide protection for the ignition systems, electric fuel pump, charging system and other accessories unique to the engines installed in your boat. Please refer to the engine owner's manual for information on the circuit breakers installed on your engines.

#### AB Switch (Optional)

Used to switch the TV between the antenna and the dockside cable, whenever the optional TV and TV antenna are installed. It is mounted near the Power Plant below the companionway step.

### 4.3 110-Volt System

The 110-volt AC system is fed by the shore power outlet or by the optional generator. It is wired totally separate from the 12-volt DC system and is equipped with an on-board galvanic isolation system. All 110-volt current is distributed to the 110-volt accessories through individual circuit breakers located in the 110-volt panel. The main breaker in the panel protects the system from an overload and the reverse polarity light indicates any problems due to an improper shore power supply. All AC outlets in the cabin are protected by ground fault interrupters to protect against electrical shock. A cord set is provided to supply power from the shore power outlet to the boat's 110-volt AC system.



TO REDUCE THE RISK OF ELECTRICAL SHOCK IN WET WEATHER, AVOID MAKING CONTACT WITH THE SHORE CABLE OR MAKING A CONNECTION TO A LIVE SHORE OUTLET. NEVER SPRAY WATER ON ELECTRICAL CABLES WHILE WASHING DOWN DECK.



TO REDUCE THE POSSIBILITY OF AN ELECTRICAL SHOCK, IT IS IMPORTANT THAT THE 110-VOLT AC GROUND SYSTEM IS FUNCTIONING PROPERLY AND THAT A PROPER CONNECTION EXISTS BETWEEN THE SHORE POWER CORD, THE SHORE POWER INLET, THE BOAT BONDING SYSTEM AND THE OUTLET GROUND CIRCUITS. IF THERE IS ANY DOUBT ABOUT THE INTEGRITY OF THE GROUND CIRCUIT, A QUALIFIED MARINE ELECTRICIAN SHOULD BE CONTACTED IMMEDIATELY AND THE 110-VOLT AC SHOULD BE DISCONNECTED UNTIL THE NECESSARY REPAIRS ARE COMPLETED.

#### Recommended procedure for making a shore connection

Turn the AC main breaker to the "OFF" position. If the dock side outlet includes a disconnect switch, turn it to the "OFF" position also.

To avoid strains on the cable make sure it has more slack than the mooring lines. Dress the cable so that it cannot be damaged by chafing between the boat and the dock. Make sure the cable does not come in contact with the water. Then connect the cable in the plug inlet making sure the connection plug includes a three-prong plug with a ground wire. Tighten the lock rings on both the shore and the boat connector plugs.



Shore Power Inlet

Turn the dock side disconnect switch or circuit breaker to the "ON" position and check for proper polarity. If reverse polarity has been achieved, the red polarity indicator in the 110-volt panel will light. If this should happen, make sure the main breaker on the panel is in the "OFF" position and turn the dock power switch or breaker off. A special relay attached to the main breaker should automatically turn the main breaker off whenever reverse polarity is achieved. Notify a qualified electrician to check the wiring at the dock outlet. If the red polarity light does not illuminate when power is supplied to the panel, the polarity is correct and the AC main switch can be moved to the "ON" position.



**DO NOT OPERATE THE AC ELECTRICAL SYSTEM FROM SHORE POWER WITH REVERSE POLARITY. REVERSE POLARITY WILL DAMAGE THE SYSTEM AND EXPOSE PASSENGERS TO ELECTROCUTION HAZARDS. THIS CONDITION COULD ALSO CAUSE A FIRE IN THE ELECTRICAL SYSTEM.**



**DO NOT ATTEMPT TO CORRECT THE WIRING YOURSELF. ELECTRIC SHOCK CAN CAUSE SEVERE INJURY OR EVEN DEATH. ALWAYS HAVE A QUALIFIED ELECTRICIAN CHECK WIRING.**



**KEEP CHILDREN AWAY FROM ANY ELECTRICAL CABLES OR EQUIPMENT AND ALWAYS USE GROUNDED APPLIANCES ON BOARD YOUR BOAT.**



**UNDETECTED FAULTS IN THE AC ELECTRICAL SYSTEM COULD CAUSE THE WATER AROUND THE BOAT TO BECOME ENERGIZED. THIS COULD CAUSE A SEVERE SHOCK OR EVEN DEATH TO SOMEONE IN THE WATER NEAR THE BOAT. NEVER SWIM OR ALLOW SWIMMING AROUND THE BOAT WHEN THE 110-VOLT AC SYSTEM IS ACTIVATED BY THE GENERATOR OR THE SHORE POWER CONNECTION.**

#### **Disconnecting procedure for shore power connection:**

Turn the main breaker on the 110-volt AC panel and the disconnect switch on the dock side outlet to the "OFF" position.

Disconnect the cable from the dock side outlet and replace the outlet caps. Disconnect the cable from the boat and close the inlet cap. Store cable.

### **110-Volt AC Accessory Breaker Panel**

The AC panel is located in the cabin. The following is a description of the AC panel equipment and the breakers that protect the accessories:



*AC Breaker Panel*

#### **AC Amp Meter**

Indicates the total amperage or current being drawn through the 110-volt panel. Has the total current level of all of the 110-volt equipment in operation at the time.

#### **AC Volt Meter**

Indicates the voltage supplied to the panel.

#### **AC Main Breaker**

Protects the general distribution network. This breaker is very sensitive. The resulting power surge that occurs when connecting the dock side cord may cause the main breaker to trip. To avoid this surge, always turn the main breaker to the "OFF" position before plugging or unplugging the shore power cord. The AC panel also is equipped with a relay that will cause the main breaker to trip when reversed polarity current is detected.

#### **Reversed Polarity Light**

The red light indicates reversed polarity current supplied to the panel. This situation will cause the red light to remain lit. If reverse polarity is achieved, immediately turn off all cabin 110-volt breakers and dock side outlet breakers and notify a qualified electrician to check the dock side wiring.

#### **Microwave**

Supplies 110-volt current directly to the microwave oven. See the microwave manual for more information.

#### **Refrigerator**

Supplies 110-volt electrical current directly to the optional refrigerator when 110-volt power is available and chosen over the 12-volt power supply. See the refrigerator manual for more information.

#### **Ice Maker**

Supplies 110-volt electrical current directly to the optional ice maker when 110-volt power is available. See the ice maker manual for more information.

#### **Stove**

Supplies electrical current directly to the galley stove.

#### **Battery Charger**

Supplies electrical current directly to the automatic battery charger. The battery charger automatically charges and maintains the 12-volt batteries simultaneously when activated. See the battery charger manual for more information.

#### **Outlets**

Supply electrical current to the cabin ground fault interrupter (GFI) electrical outlets.

**Note:** All AC electrical outlets are provided with ground fault interrupts to protect against electric shock. These outlets should be tested periodically to insure proper operation by pressing the test/reset buttons in the center of face plate. GFI outlets do not protect against short circuits and overloads. This is done by the outlet breakers on the AC panel.



GFI OUTLETS DO NOT PROVIDE 100% PROTECTION FROM ELECTRIC SHOCK. EVEN THOUGH GROUND FAULT INTERRUPTERS PROVIDE PROTECTION BY REDUCING EXPOSURE TIME FROM LINE TO GROUND SHOCK HAZARDS, IT IS STILL POSSIBLE TO RECEIVE AN ELECTRIC SHOCK FROM DEFECTIVE APPLIANCES OR POWER TOOLS AND MISUSED ELECTRICAL EQUIPMENT.

#### **Air Conditioner**

Supplies electrical current to the air conditioning control panel and the air conditioner raw water pump when this option is installed. Otherwise it is reserved for additional 110-volt equipment.

**Note:** This breaker will trip if raw water is not being supplied to the air conditioning unit. If this breaker trips, reset and check for water flow out of the air conditioning thru hull. Refer to the air conditioner owner's manual for additional information.

#### **Water Heater**

Supplies electrical current directly in the water heater circuit. The water temperature is automatically controlled by a thermostat in the water heater control panel. Before operation, you must have water in the water heater (see the water heater manual for more information).

#### **Additional AC Breaker Panels**

##### **Shore Power Inlet**

Located in the cockpit below the shore power inlet plug. This breaker protects the AC system between the shore power inlet plug and the main AC panel.

##### **AC Power Selector Switches**

The AC breaker panel will be equipped with these switches if the optional AC generator has been installed in your boat. Move the selector switches to the "SHORE" position when connected to dock side power. Move the selector switches to the "OFF" position when disconnecting the dock side power or when no 110-volt AC power is being supplied. Move the selector switch to the "GENERATOR" position when the generator is being operated.



#### **Generator Operation Panel**

These switches control the starting, running, and stopping of the optional generator. The procedures may vary depending on the model and type of generator installed in your boat. An owner operator's manual for the generator has been supplied with this manual. Please refer to it for details on the generator operation.



**GENERATOR ENGINES PRODUCE CARBON MONOXIDE WHICH IS A LETHAL, TOXIC GAS THAT IS COLORLESS AND ODORLESS. IT IS A DANGEROUS GAS THAT WILL CAUSE DEATH IN CERTAIN LEVELS. ONLY OPERATE THE GENERATOR IN WELL VENTILATED AREAS AND NEVER OPERATE THE GENERATOR WHILE YOU ARE SLEEPING.**

## **4.4 Electrical System Maintenance**

### **12-Volt DC Electrical System Maintenance**

At least once a year, spray all exposed electrical components behind the helm and in the plugs with a protector. Exterior light fixture bulbs should be removed and the metal contact areas coated with a non-water-soluble lubricant like petroleum jelly or silicone grease. The sockets should be sprayed with a protector. Care must be taken not to get any oil or petroleum jelly on the glass portion of the bulbs as this will cause the bulb to overheat and burn out.



**WHEN REPLACING LIGHT BULBS IN MARINE LIGHT FIXTURES, ALWAYS USE A BULB WITH THE SAME RATING AS THE ORIGINAL. USING A DIFFERENT BULB COULD CAUSE THE FIXTURE TO OVERHEAT AND MELT OR SHORT CIRCUIT.**

Check all below-deck wiring to be sure it is properly supported, that the insulation is sound, and that there are no loose or corroded terminals. Corroded terminals should be thoroughly cleaned with sandpaper, or replaced, tightened securely and sprayed with a metal and electrical protector. Inspect all engine wiring.

Check the electrolyte level in the batteries regularly and add distilled water as necessary. If the batteries are frequently charged by the automatic battery charger, the electrolyte level will have to be checked more often. The correct fluid level in the cells is usually approximately 1/4 to 1/2 inch above the plates. If fluid is needed, fill to the proper level with distilled water. Do not over fill! Please note that some batteries are sealed and cannot be filled.

Keep the battery tops clean and dry. Dirt and water can conduct electricity from one post to the other causing the battery to discharge.

The battery posts should be kept free of corrosion. Remove the cables and clean the posts and cable clamps with a battery post cleaner or sandpaper as required. Coating the battery posts and cable clamps with petroleum jelly or silicone grease will protect them and reduce corrosion. Battery cables, both hot and ground, must be replaced when they show signs of corrosion or fraying.

Deteriorated cables cause a considerable voltage loss when high currents are drawn, as for starting the engine.



**NEVER USE AN OPEN FLAME IN THE BATTERY STORAGE AREA. AVOID STRIKING SPARKS NEAR THE BATTERY. A BATTERY CAN EXPLODE IF A FLAME OR SPARK IGNITES THE HYDROGEN GAS THE BATTERY EMITS WHILE BEING CHARGED.**

#### **110-Volt AC Electrical System Maintenance**

Periodically inspect all wiring for frays, chafing, brittleness, improper support, etc. Examine the shore power cord closely for cracks in the insulation and corrosion in electrical connectors. Spraying receptacles and electrical connections with an electrical contact cleaner or a metal and electrical protector will reduce corrosion and improve electrical continuity.

Inspect all wiring for proper support, sound insulation, and tight terminals, paying particular attention to portable appliance cords and plugs.

The entire 110-volt circuitry, especially the shore power cord, should be seasonally tested for proper continuity by an experienced electrician. This will detect any shorts, open wires, or ground faults. Ground fault interrupters should be tested periodically to insure proper operation by pressing the test/reset buttons in the center of face plate. The polarity indicator system also should be inspected for proper operation.

The engine maintenance required on the generator is similar in many ways to the main engine. The most important factors to the generator's longevity are proper ventilation, maintenance of the fuel system, ignition system, cooling system, lubrication system and the AC alternator.

Maintenance schedules and procedures are outlined in your generator owner's manual. They should be followed exactly.

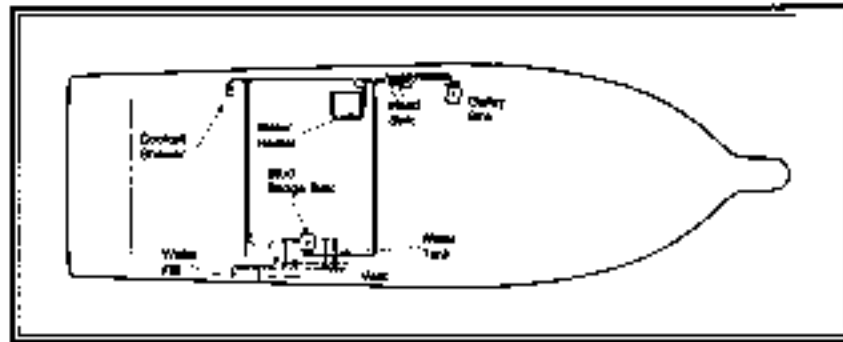


**CORROSION ALLOWED TO BUILD ON THE ELECTRICAL CONNECTORS CAN CAUSE A POOR CONNECTION RESULTING IN SHORTS, GROUND FAULTS OR POOR GROUND CONNECTIONS. ELECTRICAL CONNECTORS SHOULD BE CHECKED AT LEAST ANNUALLY AND CLEANED AS REQUIRED. DO NOT ALLOW CORROSION TO BUILD ON CONNECTIONS.**



**THE AC AND DC ELECTRICAL SYSTEMS ALWAYS SHOULD BE DISCONNECTED FROM THE POWER SOURCE BEFORE INSPECTING OR SERVICING THE SYSTEM. NEVER SERVICE ANY COMPONENT OF AN ELECTRICAL SYSTEM WHILE IT IS ENERGIZED.**

## Chapter 5: FRESH WATER SYSTEM



Fresh Water System  
(For a detailed schematic, see Chapter 15)

### 5.1 General

The fresh water system consists of a potable water tank, distribution lines and a distribution pump. The pump is equipped with an automatic pressure switch and is located on the rear engine compartment bulkhead. The tank is filled through a labeled deck plate located on the gunnel.



**DO NOT FILL SYSTEM WITH ANYTHING OTHER THAN WATER SHOULD THE SYSTEM BECOME CONTAMINATED WITH FUEL OR OTHER TOXIC FLUIDS. COMPONENT REPLACEMENT MAY BE NECESSARY.**



**DO NOT CONFUSE FUEL FILL DECK PLATES WITH THE WATER OR WASTE FILL DECK PLATES. THESE PLATES ALSO ARE LABELED ACCORDINGLY. IF GASOLINE OR DIESEL FUEL IS ACCIDENTALLY PUMPED INTO THE WATER OR WASTE TANK, DO NOT ATTEMPT TO PUMP IT OUT YOURSELF. WATER AND WASTE PUMPS ARE NOT DESIGNED TO PUMP FUEL AND A FIRE OR EXPLOSION COULD RESULT. CONTACT YOUR DEALER OR THE PURSUIT CUSTOMER RELATIONS DEPARTMENT FOR ASSISTANCE IN HAVING THE FUEL PROFESSIONALLY REMOVED AND COMPONENTS OF THE FRESH WATER SYSTEM REPLACED AS NECESSARY.**

## 5.2 Fresh Water System Operation

Fill the water supply tank slowly through the labeled deck plate. After filling the water tank, partially open all faucets. The Fresh Water System breaker on the cabin DC panel should be on. Allow the pump to run until all of the air is purged from the system and a steady stream of water is flowing from each outlet. Next, turn off the faucets one by one. As the pressure builds, the pump will automatically shut off.

When properly primed and activated the water system will operate much like the water system in a home. An automatic pressure sensor keeps the system pressurized. If the system has been recently filled or has not been used for an extended period, air bubbles may accumulate at the pump and the system may have to be reprimed.

Whenever the boat is left unattended, the water pressure breaker should be placed in the "OFF" position.



Fresh Water Pump



**DO NOT ALLOW THE FRESH WATER PUMP TO RUN DRY. THE FRESH WATER PUMP WORKS ON DEMAND AND WILL NOT SHUT OFF AUTOMATICALLY WHEN THE TANK IS EMPTY. THIS CAN RESULT IN DAMAGE TO THE PUMP. ALWAYS TURN THE WATER PRESSURE BREAKER OFF WHEN THE FRESH WATER SYSTEM IS NOT IN USE.**

## 5.3 Water heater

The water heater is located in the engine compartment. All heaters have a 110-volt element that is thermostatically controlled at the heater and activated by a circuit breaker located in the 110-volt panel. The water heater is also equipped with a heat exchanger that is plumbed to the fresh water cooling system on one of the engines. The heat exchanger will heat the water in the hot water tank whenever that engine is operating.

A high pressure relief valve protects the system from excessive pressure. Always make sure that air is purged from the water heater and lines before activating the water heater breaker. Refer to the water heater owner's manual for additional information.



**DO NOT SUPPLY CURRENT TO AN EMPTY WATER HEATER. DAMAGE TO THE HEATER WILL RESULT. THE SYSTEM MUST BE FILLED AND PRIMED BEFORE USING THE WATER HEATER.**

## 5.4 Shore Water Connection (Optional)

The shore water connection allows the direct connection of the water system to a shore side water supply. This provides the system with a constant supply of fresh water and minimizes the pressure pump operation. A female inlet fitting is mounted in the cockpit. A pressure reducer is installed in the system along with two check valves. One check valve keeps water from running out of the shore water inlet fitting when the pressure pump operates. The second provides protection for the pressure pump when the shore water is connected.

To use shore water, connect a hose from the shore water faucet to the shore water fitting on the boat. Next, turn on the shore water. The pressure pump will not run and the water in the boat's water tank will not be used.

**Note:** The water tank will not be filled by connecting to shore water.



**DO NOT MODIFY OR CHANGE THE SHORE WATER INLET CONNECTOR WITH ANOTHER TYPE WITHOUT CONSULTING PURSUIT CUSTOMER RELATIONS OR YOUR DEALER. THE USE OF THE WRONG TYPE OF INLET CONNECTOR CAN DAMAGE THE FRESH WATER SYSTEM.**

## 5.5 Shower Operation

The head sink faucet is also the shower spray head. To use as a shower, make sure the "Fresh Water System" breaker in the DC breaker panel is on, then lift the spray head off the sink or out of the locker and turn the water on. Adjust the hot and cold water faucet until the desired temperature is obtained. Some minor variations in the water temperature may occur as the pressure pump cycles.

Shower water is drained from the head compartment by a sump pump system connected to the shower drain. An automatic float switch in the shower sump controls the pump. The pump is protected by the shower sump pump circuit breaker in the panel. After showering, let the cold water flow for a period of time to flush the drainage system of soap residue.

The shower sump system is located in the bilge below the cabin steps. It is essential that the shower drain strainer is cleaned regularly and the sump is inspected periodically for accumulated debris that needs to be removed.

## 5.6 Fresh Water System Maintenance

Information supplied with water system components, by the equipment manufacturers, is included with this manual. Refer to this information for additional operation and service data.

The following items should be done routinely to maintain your fresh water system:

- Remove the filter screens from the faucet spouts and eliminate any accumulation of debris. A build up of debris can cause the pump to cycle excessively.
- Periodically remove the lid on the shower sump assembly located under the rear berth. Clean debris from the sump and flush with clean water.
- Periodically spray the pumps and metal components with a metal protector.
- The batteries must be properly maintained and charged. Operating the pressure pump from a battery with a low charge could lead to pump failure.
- Add a commercially available potable water conditioner to the water tank to keep it fresh.

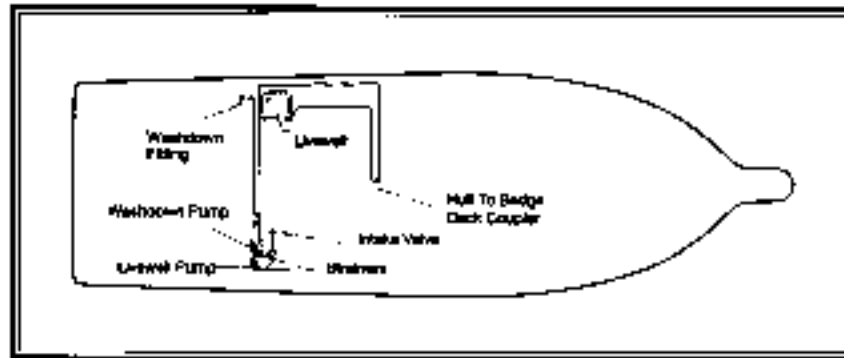


THE FRESH WATER SYSTEM MUST BE PROPERLY WINTERIZED PRIOR TO WINTER LAY-UP. SEE SECTION ON WINTERIZING.



THE WATER PRESSURE BREAKER SHOULD BE PLACED IN THE "OFF" POSITION WHENEVER LEAVING THE BOAT UNATTENDED OR WHEN THE FRESH WATER SYSTEM IS NOT IN USE.

## Chapter 6: RAW WATER SYSTEM



Raw Water System  
(For a detailed schematic, see Chapter 15)

### 6.1 General

In the raw or sea water systems, all water pumps are supplied by hoses connected in ball valves and their ball fittings located in the bilge compartment. Always make sure the ball valves are open before attempting to operate any component of the raw water system. 12-volt pumps supply sea water to most of the various accessories.

The optional air conditioner uses a 110-volt AC sea water supply pump. This is the only 110-volt AC pump in the system and it is automatically activated when the air conditioning or heating system is in use.

#### **Priming the System**

Make sure the ball valves are open. Open the hose connector for the raw water washdown and activate the pressure pump by turning the washdown pump switch to the "ON" position. Run the pump until all of the air is purged from the system and then turn the switch "OFF." Turn the live well switch to the "ON" position. Run the pump until all of the air is purged from the system and then turn the switch to the "OFF" position. Closing the thru-hull ball valves before the boat is launched from the water will help to eliminate air locks in raw water systems.

**Note:** It may be necessary to reprime the raw water system if the system is not used for an extended period and at the time of launching.

## 6.2 High Pressure Washdown

A saltwater high pressure pump, controlled by a pressure sensor, supplies the raw water hose connector located in the cockpit. The pump is activated by the washdown switch located under the gunwale on the side of the cockpit. This switch should be turned to the "ON" position just before using the washdown and be turned to the "OFF" position when the washdown is not in use.

When activated, the pressure switch will automatically control the pump. As the pressure builds in the washdown hose, the pump will shut off. When the washdown hose is in use and the pressure drops, the pump will turn on.

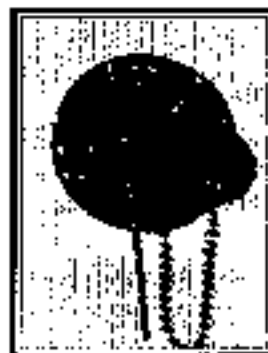
The raw water washdown system is equipped with a sea strainer on the intake side of the pump, located in the bilge behind the stern access hatch. This should be checked frequently and cleaned as necessary.

### The Washdown Pump Connector

The washdown pump hose connector is located in the cockpit and uses a standard garden hose connection.



Raw Water Pump



Washdown Hose Connector



ALWAYS TURN THE RAW WATER PUMP SWITCH TO THE "OFF" POSITION WHEN LEAVING THE BOAT UNATTENDED.



DO NOT RUN THE HIGH PRESSURE PUMP DRY FOR EXTENDED PERIODS AS DAMAGE TO THE PUMP WILL RESULT.



## 6.3 Livewell

Sea water is provided to the livewell by a 12-volt diaphragm pump. This pump is designed to carry a constant flow of water to the livewell. The pump is activated by the livewell switch on the 12-volt panel or a separate switch in the cockpit. An overflow built into the livewell automatically controls the water level in the livewell. Always turn the pump off at the switch panel when the livewell is not in use.

To fill the livewell, insert the plug into the drain fitting at the bottom of the livewell. Make sure the valve at the intake thru hull fitting is open and activate the livewell switch. When the water level reaches the overflow, it will begin to circulate.

To drain the livewell, turn off the livewell pump and pull out the plug in the drain fitting at the bottom of the livewell. When the livewell has completely drained, use the washdown hose to flush the livewell and drain of debris.

The livewell supply thru hull valve should be closed whenever the livewell is not in use. This will prevent water from entering the livewell while the boat is cruising.

**Note:** Do not use the livewell as a dry storage area when it is not in use. Sea water could accidentally be delivered to the livewell from the thru hull fitting and damage equipment stored there.



**DO NOT RUN THE LIVEWELL PUMP DRY FOR EXTENDED PERIODS AS DAMAGE TO THE PUMP WILL RESULT.**



Livewell

## 6.4 Air Conditioning

The air conditioner is self-contained and sea water cooled. A 110-volt centrifugal raw water pump supplies sea water that cools the condensing unit as it circulates through the system and is discharged overboard. The pump is located below the water line and is powered whenever 110-volt current is available and the air conditioning system is operating.

Sea water is supplied to the pump from a thru hull fitting located in the hull near the pump. A sea strainer between the pump and thru hull fitting protects the system from contaminants that could

damage the pump or the air conditioning system. Make sure the sea water pump receives adequate sea water by periodically cleaning the sea strainer basket.

Please refer to the air conditioner owner's manual for more information on the operation and maintenance of the air conditioner.

## 6.4 Raw Water System Maintenance

The following items should be done routinely to help maintain your raw water system:

- Check hoses, particularly the sea water supply lines, for signs of deterioration.
- Remove and clean the sea water strainers for the livewell, air conditioner and washdown pump, as needed.
- Spray pumps and thru hull valves with a protective oil periodically.
- The fishboxes and livewells should be drained and cleaned after each use.
- Operate all thru hull valves at least once a month to keep them operating properly.



SHOULD A HOSE RUPTURE, TURN THE PUMP OFF IMMEDIATELY. ALWAYS CLOSE THE THRU HULL VALVE WHEN PERFORMING MAINTENANCE ON A SEA WATER PUMP.

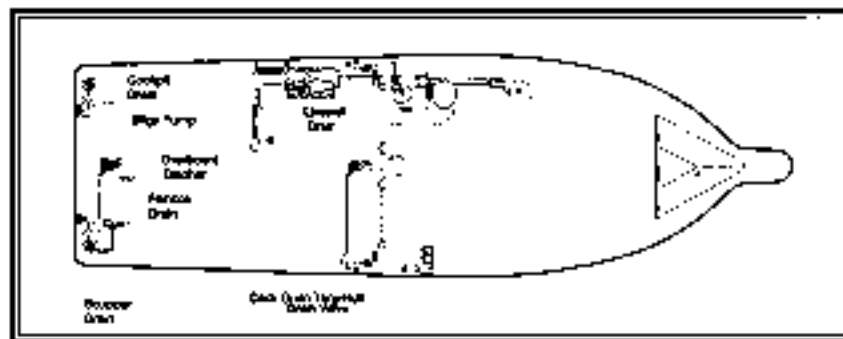


THE BATTERIES MUST BE PROPERLY CHARGED. OPERATING ANY PUMPS FROM A BATTERY WITH A LOW CHARGE MAY LEAD TO A PUMP FAILURE.



THE RAW WATER SYSTEM MUST BE PROPERLY WINTERIZED PRIOR TO WINTER LAY-UP. SEE SECTION ON WINTERIZING.

## Chapter 7: DRAINAGE SYSTEMS



Drainage System  
*(For a detailed schematic, see Chapter 15.)*

### 7.1 General

All water is drained by gravity in overboard thru hull fittings located in the hull sides above the waterline. The drain thru hull fittings are equipped with PVC ball valves that are always open under normal operating conditions. All drains, including the cockpit scuppers, are connected to the thru hull valves. In the event of an emergency, the valves can be closed to prevent sea water from entering the boat through the drainage system. It is important to check and operate the drain valves at least annually to make sure they are in good condition and operating properly. You also should check the drain system frequently to ensure it is free flowing and that the hoses on the thru hull fittings are secure and not leaking. Please review the drainage schematic to become familiar with the location of the thru hull drain valves.



SITUATIONS REQUIRING ONE OR MORE DRAIN VALVES TO BE CLOSED CAN BE POTENTIALLY DANGEROUS TO THE BOAT AND YOUR CREW. IF THIS OCCURS, DISTRIBUTE PERSONAL FLOTATION DEVICES TO THE CREW AND TAKE ALL NECESSARY SAFETY PRECAUTIONS, INCLUDING NOTIFYING THE COAST GUARD UNTIL THE PROBLEM IS FOUND AND CORRECTED.

## 7.2 Cockpit Drains

Your Pursuit has two scupper drains located in the rear of the cockpit. Water is channeled away from all hatches by a gutter or drain rail system. The water then drains overboard through the scupper drain system.

## 7.3 Hardtop and Radar Arch Drains

There is a hole drilled in one of the leg bases to prevent water from being trapped within the leg and provide a wire chase for accessories. A small hole is drilled in the tubing at the base of the other leg, which are not drilled for a wire chase, that allows water to drain.



**ALWAYS MAKE SURE THE LEG DRAIN HOLES ARE CLEAR WHEN THE BOAT IS LAID UP FOR THE WINTER. WATER TRAPPED INSIDE THE LEGS COULD FREEZE AND CAUSE THE LEGS TO SPLIT.**

## 7.4 Bilge Drainage

The bilge pumps are activated both manually, by a switch in the helm station, and automatically, by float switches located next to the pumps in the bilge. The automatic float switches are protected by circuit breakers located on the Power Station and remain activated when the battery switches are in the "OFF" position and the batteries are connected. All bilge pumps pump water out of thru hulls located above the waterline in the hull. The rear bilge pump and automatic switch are located near the transom, below the stern fishbox, and the forward pump and automatic switch are located in the engine room.



*Bilge Pump*

**Note:** See Electrical Systems for additional information on bilge pump operation.

When the boat is out of the water, the bilge can be drained by a thru hull drain located in the transom near the bottom of the hull. The plug should be removed whenever the boat is hauled out of the water and installed just prior to launching. It is important to check the drain plug regularly to make sure it is tight.



A LOOSE DRAIN PLUG WILL ALLOW SEA WATER TO ENTER THE BILGE AND COULD CAUSE THE BOAT TO SINK. IT IS VERY IMPORTANT TO CHECK THE DRAIN PLUG FREQUENTLY TO INSURE IT IS PROPERLY TIGHTENED.

**IMPORTANT:** Any oil spilled in the bilge must be thoroughly removed and properly disposed of before operating the bilge pump. The discharge of oil from the bilge is illegal and subject to a fine.



THE FEDERAL WATER POLLUTION CONTROL ACT PROHIBITS THE DISCHARGE OF OIL OR OILY WASTE INTO OR UPON THE NAVIGABLE WATERS OF THE UNITED STATES OR THE WATERS OF THE CONTIGUOUS ZONE IF SUCH DISCHARGE CAUSES A FILM OR SHEEN UPON, OR A DISCOLORATION OF THE SURFACE OF THE WATER, OR CAUSES A SCUMS OR BODILSON BENEATH THE SURFACE OF THE WATER. VIOLATORS ARE SUBJECT TO A PENALTY OF \$10,000.



CERTAIN BULKHEAD AREAS ARE SEALED IN ACCORDANCE WITH U.S. COAST GUARD REGULATIONS THAT WERE IN EFFECT AT THE DATE OF MANUFACTURE OF THE BOAT. ANY MODIFICATIONS TO THESE BULKHEADS SHOULD BE IN ACCORDANCE WITH THE U.S. COAST GUARD REGULATIONS.

## 7.5 Fishbox and Storage Compartment Drains

The storage box, located under the passenger seat, is drained by gravity. Water drains out of the box to the cockpit drain system. The fishbox below the cockpit floor is drained overboard by a macerator pump-out system. The macerator is activated by a momentary switch located on a switch panel near the transom door. The fishboxes should be flushed out and cleaned after each use.

**Note:** The macerator discharge pump can only be run dry for a couple of seconds. Allowing the macerator pump to run after the fishbox is empty will cause damage to the pump.

## 7.6 Water System Drains

All exterior tanks and live wells, provided with fresh or raw water, drain by gravity to overboard thru hulls located in the hull sides just above the waterline. The overflows in the live well drain into the overboard drain.

## 7.7 Shower and Cabin Sink Drains

The shower and cabin sinks are drained from the boat by a sump pump system connected to the shower and sink drains. Some early 3000 Express models could be equipped with a separate sump pump for the head and galley sink drains located in the cabinet below the head compartment sink and another sump pump for the shower and air conditioner located in the bilge and accessed through a hatch under the cabin steps. Other 3000 Express models may be equipped with one sump pump for the cabin sinks, air conditioner and shower located below the cabin steps. An automatic float switch on the shower sump controls the pump. The pump is protected by the shower sump pump "Push to Reset" circuit breaker in the panel. After showering, let the cold water flow for a period of time to flush the drainage system of soap residue. The sump has a removable hatch to allow the system to be inspected and serviced. It is essential that the sump system be inspected periodically and any accumulated debris removed.



Shower and Cabin Drain  
Sump Pump

A drain plug in the cabin sole is provided to drain water that may accumulate on the cabin floor. This plug keeps the engine compartment isolated from the cabin and should be removed only to drain water from the cabin floor and reinstalled when the draining is complete.

## 7.8 Rope Locker Drains

The rope locker drains overboard through a special drain fitting located in the hull side at the bottom of the rope locker. It is important to inspect the drain frequently to remove any accumulated debris.

## 7.9 Drainage System Maintenance

It is essential that the following items be done periodically to maintain proper drainage of your boat:

- Clean the cockpit drain rails with a hose to remove debris that can block water drainage.
- Clean the hardtop and wheel arch leg drain holes. This is especially important just before winter lay-up.
- Clean the bilge pump strainers of debris and check the bilge for foreign material that can cause the automatic switch to malfunction.

- Frequently test the automatic bilge pump switches for proper operation.
- Flush all gravity drains with freshwater to keep them clean and free flowing.
- Clean and inspect the shower and cabin sink drain sump system. Remove accumulated debris and flush with freshwater. Frequently test the automatic pump switches for proper operation.
- Clean and flush the fishbox and cooler storage boxes with soap or a bilge cleaner and freshwater after each use to keep them clean and fresh.
- Operate the thru hull valves once a month and service as required.

Note: All drains and pumps must be properly winterized before winter lay-up.



NEVER USE HARSH CHEMICAL DRAIN CLEANERS IN MARINE DRAIN SYSTEMS. PERMANENT DAMAGE TO THE HOSES AND FITTINGS MAY RESULT.



TO KEEP THE CABIN FREE OF FUMES, VAPORS AND WATER, ALWAYS REPLACE AND PROPERLY SECURE THE CABIN DRAIN PLUG IN THE CABIN SURF AFTER DRAINING.

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## *Chapter 8:* **VENTILATION SYSTEM**

### **8.1 Cabin Ventilation**

Ventilation to the cabin area is provided by three deck hatches and opening port windows.

#### **Port Windows**

The port windows are secured by cam action locks. The locks should be adjusted so they are tight enough to seal the windows in the closed position, but not so tight that they break the plastic.



*Opening Port Window*

#### **Deck Hatches**

The three deck hatches are supported in the open position by an adjustable hatch adjuster. To close a hatch, loosen the hatch adjuster and lower the hatch. Secure in the closed position with the two cam levers on the inside of the hatch.



*Forward Deck Hatch*

#### **Head Compartment**

Ventilation to the head compartment is provided by an opening port window. The port window is secured by cam action locks. The locks should be adjusted so they are tight enough to seal the window in the closed position, but not so tight that they break the plastic.

### **8.2 Windshield Ventilation**

The windshield is equipped with an opening vent panel on each side of the windshield. To open the vent, release the locking T-handles and open the vent to the desired position. Lock the vent in place by turning the T-handles 1/4 turn. The friction of the T-handle in the guide will hold the vent in that position.



*Windshield Vent*

### 8.3 Carbon Monoxide and Proper Ventilation



**CARBON MONOXIDE IS A LETHAL, TOXIC GAS THAT IS COLORLESS AND ODORLESS. IT IS A DANGEROUS GAS THAT WILL CAUSE DEATH IN CERTAIN LEVELS.**

A by-product of combustion, carbon monoxide (CO) is invisible, tasteless, odorless, and is produced by all engines, heating and cooking appliances. The most common sources of CO on boats are gasoline engines, auxiliary generators and propane or butane stoves. These produce large amounts of CO and should never be operated while sleeping. The hazard also may be created by a boat nearby whose exhaust fumes are entering your boat. Boats also have a problem due to the "station wagon effect" where engine exhaust fumes are captured in the vacuum or low pressure area, usually the cockpit, bridge deck and cabin, that can be created by the forward speed of the boat.

Boats underway should close all aft facing hatches and doors. The forward facing deck hatches should be open whenever possible to help pressurize the living spaces of the boat. No sleeping in the cabin should be permitted while underway. Proper ventilation should be maintained on the bridge deck by opening windshield vents, as far as possible to help pressurize the cockpit area. The canvas drop or aft curtain must be removed and the side curtains should be opened or removed to increase air flow and maintain proper ventilation whenever the engines are running. *Under no circumstances should the engines be operating with side curtains closed and the aft or drop curtain installed.*

Extreme caution must be taken while at anchor or moored when an auxiliary power generator is operating. Wind still might easily allow exhaust fumes, containing high concentrations of CO, from the generator on your boat or from an adjacent boat's generator to enter the boat. The exhaust fumes may enter your boat through open hatches or windows.

A carbon monoxide detector has been installed in your cabin as standard equipment. While a CO detector enhances your protection from CO poisoning, it does not guarantee it will not occur. Do not use the carbon monoxide detector as a replacement for ordinary precautions or periodic inspections of equipment. Never rely on alarm systems to save your life, common sense is still prudent and necessary. Remember, the operator of the boat carries the ultimate responsibility to make sure the boat is properly ventilated and the passengers are not exposed to dangerous levels of carbon monoxide. You should always be alert to the symptoms and early warning signs of carbon monoxide poisoning. You also should read the book entitled "Sportfish Cruisers, Yachts - Owner's Manual" included with this manual, the "Carbon Monoxide Monitoring System" in the "Safety Equipment" chapter of this manual, and the owner's manual supplied by the CO detector manufacturer for operation instructions and additional information regarding the hazards and symptoms of carbon monoxide poisoning.



ACTIVATION OF THE CARBON MONOXIDE MONITOR INDICATES THE PRESENCE OF CARBON MONOXIDE (CO) WHICH CAN BE FATAL. EVACUATE THE CABIN IMMEDIATELY. DO A HEAD COUNT TO CHECK THAT ALL PERSONS ARE ACCOUNTED FOR. DO NOT REENTER THE CABIN UNTIL IT HAS BEEN AIBED OUT AND THE PROBLEM FOUND AND CORRECTED.



FAILURE TO PROPERLY VENTILATE THE BOAT WHILE THE ENGINES ARE RUNNING MAY PERMIT CARBON MONOXIDE TO ACCUMULATE WITHIN THE CABIN. CARBON MONOXIDE IS A COLORLESS AND ODORLESS GAS THAT IS LETHAL. WHEN INHALED CARE MUST BE TAKEN TO PROPERLY VENTILATE THE BOAT AND TO AVOID CARBON MONOXIDE FROM ACCUMULATING IN THE BOAT WHENEVER AN ENGINE IS RUNNING.

## 8.4 Engine Compartment Ventilation

All Pursuit inboard boats are equipped with engine compartment ventilation. The ventilation system is designed to meet or exceed the requirements of the United States Coast Guard in effect at the time of manufacture.

### Free Air System

A flow of air into the engine compartment is provided by two intake vents located on either side of the hull. Two exhaust vents, located on each side of the deck below the windshield, provide a flow of air out of the engine compartment. The exhaust vents have ducts that reach to the lower part of the engine compartment. This provides adequate air movement while operating at or near cruise speeds.

### Forced Ventilation

The Pursuit 3000 Express is equipped with an electric blower that provides ventilation to the engine compartment prior to start up and while operating below cruise speed. The blowers are activated by a switch at the helm, and are located in the vent boxes, in the bilge, on each side of the engine compartment. Refer to the Electrical Systems chapter for more information on blower operation.



**GASOLINE VAPORS CAN EXPLODE. BEFORE STARTING THE ENGINES, OPERATE THE ENGINE COMPARTMENT BLOWER FOR FIVE (5) MINUTES, OPEN THE ENGINE ACCESS HATCH, INSPECT THE FUEL SYSTEM, AND CHECK THE ENGINES FOR THE ODOUR OF GASOLINE VAPORS. ALWAYS OPERATE THE BLOWER WHILE THE ENGINES ARE AT IDLE. UNDER NO CIRCUMSTANCES SHOULD THIS PROCEDURE BE OVERLOOKED.**



ALWAYS RUN THE BLOWER WHEN OPERATING A GASOLINE-POWERED INBOARD BOAT BELOW CRUISE SPEEDS TO ENSURE ADEQUATE VENTILATION OF THE ENGINE COMPARTMENT.

## 8.5 Maintenance

- Periodically lubricate all hinges and latch assemblies with a light oil.
- Periodically clean and coat gasket materials with silicone to help keep them pliable.
- The opening cabin deck hatches, port windows and the curved section in each front corner of the windshield are made of acrylic plastic glass. Acrylic glass scratches easily. Never use a dry cloth or glass cleaning solutions on acrylic glass. Use a soft cloth and mild soap and water for routine cleaning. Solvents and products containing ammonia can permanently damage acrylic glass. Please refer to the Routine Maintenance chapter for more information on the proper maintenance for acrylic plastic glass.
- Periodic inspection and cleaning of the engine compartment ventilation ducts is necessary to ensure adequate air circulation. A buildup of leaves, twigs, or other debris can severely reduce ventilation. It is also important to be sure that the bilge water level does not accumulate to a level that could restrict the ventilation ducts.
- The bilge blowers are permanently lubricated and require no maintenance. Blower operation can and should be tested by placing a hand over the exhaust vents. Do not rely on the sound of the blowers. A substantial amount of air should be exhausted by the blowers. Frequently check the intake vents for obstructions, preferably before each cruise.
- Periodically return the carbon monoxide alarm to the manufacturer for testing and recalibration. Please refer to the carbon monoxide alarm manual or contact the manufacturer for more information on maintaining and calibrating the alarm.

**Note:** Should blower noise become excessive, the source of the noise should be found and corrected before operating the boat.

## *Chapter 9:* **SAFETY EQUIPMENT**

### **9.1 General**

Your boat and inboard engines have been equipped with safety equipment designed to enhance the safe operation of the boat and to meet U.S. Coast Guard safety standards. The Coast Guard or state, county, and municipal law enforcement agencies require certain additional accessory safety equipment on each boat. This equipment varies according to length and type of boat and type of propulsion. The accessory equipment required by the Coast Guard is described in this chapter. Some local laws require additional equipment. It is important to obtain "Federal Requirements And Safety Tips for Recreational Boats," published by the Coast Guard, and copies of state and local laws, to make sure you have the required equipment for your boating area. You also should read the book entitled "Sportfish, Cruisers, Yachts - Owner's Manual" included with this manual.

Your Pursuit could be equipped with engine alarms, an optional automatic fire extinguishing system or cabin monitoring equipment. These systems are designed to increase your boating safety by alerting you to potentially serious problems in the primary power systems, the engine compartment, and the cabin. Alarm systems are not intended to lessen or replace good maintenance and pre-trip procedures.

This chapter also describes safety related equipment that could be installed on your boat. This equipment will vary depending on the type of engines and other options installed by you or your dealer.

### **9.2 Engine Alarms**

The Pursuit 3000 Express is equipped with engine alarms that monitor water temperature and oil pressure. The alarms are equipped with a buzzer and/or a light located in the helm. The alarm will sound if the water temperature reaches 20° degrees F, or the oil pressure drops below 6 P.S.I. Some diesel engine installations have fuel filters that can be equipped with sensors that cause the engine alarm to sound if excessive water has accumulated in the filters and may have additional alarms for transmission temperature or pressure. Please refer to the engine owner's manual or contact your dealer for more information on the engine alarm system installed on your boat.

#### **If the alarms sound:**

- Immediately shut the engines back on idle.
- Shift the transmissions to neutral.

**PURSUIT, 3000 EXPRESS**

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- Monitor the engine gauges to determine the cause of the problem.
- If necessary, shut off the engines and investigate until the cause of the problem is found.
- If the boat is equipped with water sensors in the fuel filters, be sure to check them for excessive water.

### 9.3 Neutral Safety Switch

Every control system has a neutral safety switch incorporated into it. This device prohibits the engines from being started while the shift lever is in any position other than the neutral position. If the engines will not start, slight movement of the shift levers may be necessary to locate the neutral position and disengage the safety cutoff switch. Control or cable adjustments may be required to correct this condition should it persist. See your Pursuit dealer for necessary control and cable adjustments. Please refer to the Helm Control Systems chapter for more information on the neutral safety switch.

### 9.4 Required Safety Equipment

Besides the equipment installed on your boat by Pursuit, certain other equipment is required by the U.S. Coast Guard to help ensure passenger safety. Items like a sea anchor, working anchor, extra dock lines, flare pistol, life vests, a line permanently secured to your ring buoy, etc., could at some time save your passengers' lives, or save your boat from damage. Refer to the "Federal Requirements And Safety Tips For Recreational Boats" pamphlet for a more detailed description of the required equipment. You also can contact the U.S. Coast Guard Boating Safety Hotline, 800-368-5647, for information on boat safety courses and brochures listing the Federal equipment requirements. Also, check your local and state regulations.

The Coast Guard Auxiliary offers a "Courtesy Examination." This inspection will help ensure that your boat is equipped with all of the necessary safety equipment.

The following is a list of the necessary equipment required on your boat by the U.S. Coast Guard:

#### **Personal Flotation Devices (PFDs)**

PFDs must be Coast Guard approved, in good and serviceable condition, and of appropriate size for the intended user. Wearable PFDs must be readily accessible, meaning you must be able to put them on in a reasonable amount of time in an emergency. Though not required, the Coast Guard emphasizes that PFDs should be worn at all times when the vessel is underway. Throwable devices must be immediately available for use. All Pursuit boats must be equipped with at least one Type I, II or III PFD for each person on board, plus one throwable device (Type IV).

### **Visual Distress Signals**

All Pursuit boats used on coastal waters, the Great Lakes, territorial seas, and those waters connected directly to them, must be equipped with Coast Guard approved visual distress signals. These signals are either Pyrotechnic or Non-Pyrotechnic devices.

#### **Pyrotechnic visual distress signals:**

Pyrotechnic visual distress signals must be Coast Guard approved, in serviceable condition, and readily accessible. They are marked with a date showing the service life, which must not have expired. A minimum of three are required. Some pyrotechnic signals meet both day and nighttime requirements. They should be stored in a cool, dry location. They include:

- Pyrotechnic red flares, hand-held or aerial
- Pyrotechnic orange smoke, hand-held or floating.
- Launchers for aerial red meteors or parachute flares.



**PYROTECHNICS ARE UNIVERSALLY RECOGNIZED AS EXCELLENT DISTRESS SIGNALS. HOWEVER, THERE IS POTENTIAL FOR INJURY AND PROPERTY DAMAGE IF NOT PROPERLY HANDLED. THESE DEVICES PRODUCE A VERY HOT FLAME AND THE BURNING CAN CAUSE BURNS AND IGNITE FLAMMABLE MATERIAL. PISTOL LAUNCHED AND HANDHELD PARACHUTE FLARES AND METEORS HAVE MANY CHARACTERISTICS OF A FIREARM AND MUST BE HANDLED WITH CAUTION. IN SOME STATES THEY ARE CONSIDERED A FIREARM AND PROHIBITED FROM USE. ALWAYS BE EXTREMELY CAREFUL AND FOLLOW THE MANUFACTURER'S INSTRUCTIONS EXACTLY WHEN USING PYROTECHNIC DISTRESS SIGNALS.**

#### **Non-Pyrotechnic Devices**

Non-Pyrotechnic visual distress signals must be in serviceable condition, readily accessible, and certified by the manufacturer as complying with U.S. Coast Guard requirements. They include:

- **Orange Distress Flag (Day use only)**  
The distress flag is a day signal only. It must be at least 3 x 3 feet with a black square and ball on an orange background. It is most distinctive when attached and waved from a paddle or boat hook.
- **Electric Distress Light (Night use only)**  
The electric distress light is accepted for night use only and must automatically flash the international SOS distress signal. Under Inland Navigation Rules, a high intensity white light flashing at regular intervals from 50-70 times per minute is considered a distress signal.

### Sound Signaling Devices

The navigation rules require sound signals to be made under certain circumstances. Recreational vessels also are required to sound fog signals during periods of reduced visibility. Therefore, you must have some means of making an efficient sound signal.

### Navigation Lights

Recreational boats are required to display navigation lights between sunset and sunrise and other periods of reduced visibility (fog, rain, haze, etc.) Navigation lights are intended to keep other vessels informed of your presence and course. Your Pursuit is equipped with the navigation lights required by the U.S. Coast Guard at the time of manufacture. It is up to you to make sure they are operational and turned on when required.

### Fire Extinguishers

At least one fire extinguisher is required on all Pursuit boats. Coast Guard approved fire extinguishers are hand-portable, either B-I or B-II classification and have a specific marine type mounting bracket. It is recommended the extinguishers be mounted in a readily accessible position.

Fire extinguishers require regular inspections to insure that:

- Seals & tamper indicators are not broken or missing.
- Pressure gauges or indicators read in the operable range.
- There is no obvious physical damage, corrosion, leakage or clogged nozzles.



*Fire Extinguisher*

Refer to the "Federal Requirements And Safety Tips For Recreational Boats" pamphlet or contact the U.S. Coast Guard Boating Safety Hotline, 1-800-368-5647, for information on the type and size fire extinguisher required for your boat.

Please refer to the information provided by the fire extinguisher manufacturer for instructions on the proper maintenance and use of your fire extinguisher.



INFORMATION FOR HALON OR AGENT 1234 FIRE EXTINGUISHERS IS PROVIDED BY THE MANUFACTURER. IT IS ESSENTIAL THAT YOU READ THE INFORMATION CAREFULLY AND COMPLETELY UNDERSTAND THE SYSTEM, IN THEORY AND OPERATION, BEFORE USING YOUR BOAT.

### Bilge and Fuel Fires

Fuel compartment and bilge fires are very dangerous because of the presence of gasoline or diesel fuel in the various components of the fuel system and the possibility for explosion. You must make the decision to fight the fire or abandon the boat. If the fire cannot be extinguished quickly or it is too intense to fight, abandoning the boat may be your only option. If you find yourself in this



situation, make sure all passengers have a life preserver on and go over the side and swim well upward of the boat. This will keep you and your passengers well clear of any burning fuel that could be released and spread on the water as the boat bums or in the event of an explosion. When clear of the danger, check about and account for all those who were aboard with you. Give whatever assistance you can to anyone in need or in the water without a buoyant device. Keep everyone together in a group for morale and to aid rescue operations.



**GASOLINE CAN EXPLODE. IN THE EVENT OF A FUEL COMPARTMENT OR BILGE FIRE, YOU MUST MAKE THE DIFFICULT DECISION TO FIGHT THE FIRE OR ABANDON THE BOAT. YOU MUST CONSIDER YOUR SAFETY, THE SAFETY OF YOUR PASSENGERS, THE INTENSITY OF THE FIRE AND THE POSSIBILITY OF AN EXPLOSION IN YOUR DECISION.**

## 9.5 Automatic Fire Extinguishing System (Optional)

The Pursuit inboard engine compartment could be equipped with an optional automatic fire extinguishing system. The equipment has been chosen and located to provide sufficient volume and coverage of the entire engine compartment area. While the system ensures excellent bilge fire protection, it does not eliminate the U.S. Coast Guard requirement for hand held fire extinguishers.

Diesel powered boats have an engine cutout circuit that automatically shuts down the engines when the system is activated. The red light on the fire extinguisher control panel will light and an alarm will sound if this should occur. When sufficient time has elapsed for the fire to be extinguished and a flashback is no longer possible, find and fix the problem, then the override switch on the control panel can be moved to the "OVERRIDE" position and the engines can be restarted.



**IF ACTIVATION SHOULD OCCUR, IMMEDIATELY SHUT DOWN ALL ENGINES. TURN OFF ALL ELECTRICAL SYSTEMS, POWERED VENTILATION AND EXTINGUISH ALL SMOKING MATERIALS. DO NOT OPEN THE ENGINE COMPARTMENT HATCH IMMEDIATELY!! THIS FEEDS OXYGEN TO THE FIRE AND FLASH BACK COULD RESULT. ALLOW THE EXTINGUISHING AGENT TO SOAK THE ENGINE COMPARTMENT FOR AT LEAST 15 MINUTES AND WAIT FOR HOT METALS OR FUELS TO COOL BEFORE CAUTIOUSLY INSPECTING FOR CAUSE OR DAMAGE. HAVE AN APPROVED PORTABLE FIRE EXTINGUISHER AT HAND AND READY FOR USE. DO NOT BREATHE FUMES OR VAPORS CAUSED BY THE FIRE!!**



**DIESEL ENGINES WILL CONSUME EXTINGUISHING AGENT. IF THE SYSTEM DISCHARGES AND THE ENGINES DO NOT AUTOMATICALLY SHUT DOWN, THEY MUST BE IMMEDIATELY SHUT DOWN MANUALLY. IF A DIESEL ENGINE IS ALLOWED TO RUN IN THIS SITUATION, IT WILL CONSUME THE EXTINGUISHING AGENT AND FLASH BACK COULD RESULT.**



IF THE AUTOMATIC FIRE EXTINGUISHING SYSTEM IS INSTALLED IN YOUR BOAT, THE INFORMATION PROVIDED BY THE SYSTEM MANUFACTURER SHOULD BE INCLUDED. IT IS ESSENTIAL THAT YOU READ THE INFORMATION CAREFULLY AND COMPLETELY UNDERSTAND THE SYSTEM IN THEORY AND OPERATION BEFORE USING YOUR BOAT.

## 9.6 Carbon Monoxide Monitoring System



CARBON MONOXIDE IS A LETHAL, TOXIC GAS THAT IS COLORLESS AND ODORLESS. IT IS A DANGEROUS GAS THAT WILL CAUSE DEATH IN CERTAIN LEVELS.

The carbon monoxide (CO) monitor is installed in the cabin as standard equipment and warns the occupants of dangerous accumulations of carbon monoxide gas. If excess carbon monoxide fumes are detected, the monitor will sound an alarm indicating the presence of the toxic gas.

Should a very high level of carbon monoxide exist, the alarm will sound in a few minutes. However, if small quantities of CO are present or high levels are short-lived, the alarm will accumulate the information and determine when an alarm level has been reached. The carbon monoxide detector is automatically activated whenever the house battery switch is in the 'ON' position. The power light on the carbon monoxide detector should be lit to indicate that the carbon monoxide detector is activated. ***Always make sure house battery switch of the Power Plant is "ON" and the power light on the carbon monoxide detector is lit whenever the cabin is occupied.***



Carbon Monoxide Detector

A by-product of combustion, carbon monoxide (CO) is invisible, tasteless, odorless, and is produced by all engines, heating and cooking appliances. The most common sources of CO on boats are gasoline engines and auxiliary generators and propane or butane stoves. These produce large amounts of CO and should never be operated while sleeping.

A slight buildup of carbon monoxide over several hours causes headache, nausea and other symptoms that are similar to food poisoning, motion sickness or flu. High concentrations can be fatal within minutes. Many cases of carbon monoxide poisoning indicate that while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the area or calling for help. Also, young children, elderly persons, and pets may be the first affected.

Drug or alcohol use increases the effect of CO exposure. Individuals with cardiac or respiratory conditions are very susceptible to the dangers of carbon monoxide. CO poisoning is especially

dangerous during sleep when victims are unaware of any side effects. The following are symptoms which may signal exposure to CO: (1) Headache (2) Tightness of chest or hyperventilation (3) Flushed face (4) Nausea (5) Drowsiness (6) Fatigue or Weakness (7) Irritability or confusion (8) Lack of normal coordination.

Persons who have been exposed to carbon monoxide should be moved into fresh air immediately. Have the victim breathe deeply and seek immediate medical attention. To learn more about CO poisoning, contact your local health authorities.

Low levels of carbon monoxide over an extended period of time can be just as lethal as high doses over a short period. Therefore, low levels of carbon monoxide can cause the alarm to sound before the occupants of the boat notice any symptoms of carbon monoxide poisoning. CO monitors are very reliable and rarely sound false alarms. If the alarm sounds, always assume the hazard is real and move persons who have been exposed to carbon monoxide into fresh air immediately. Never disable the CO monitor because you think the alarm may be false. Always contact the monitor manufacturer or your local fire department for assistance in finding and correcting the situation.

Remember, carbon monoxide detectors do not guarantee that CO poisoning will not occur. Do not use the CO detector as a replacement for ordinary precautions or periodic inspections of equipment. Never rely on alarm systems to save your life, common sense is still prudent and necessary.

Please read the owner's manual supplied by the CO detector manufacturer and included with this manual, for operating instructions and additional information regarding the hazards of carbon monoxide gas. Refer to the Ventilation chapter for information on ventilating your boat properly while underway and other precautions while at anchor or in a slip. This is especially essential if your boat is equipped with the optional generator. The book entitled "Sportfish, Cruisers, Yachts - Owner's Manual," included with this manual, also has additional information and cautions regarding carbon monoxide poisoning.

Many manufacturers of carbon monoxide detectors offer a testing and recertification program. We recommend that you contact the manufacturer of your carbon monoxide detector and have it tested and recertified periodically.



**ACTUATION OF THE CARBON MONOXIDE MONITOR INDICATES THE PRESENCE OF CARBON MONOXIDE (CO) WHICH CAN BE FATAL. EVACUATE THE CABIN IMMEDIATELY. DO A HEAD COUNT TO CHECK THAT ALL PERSONS ARE ACCOUNTED FOR. DO NOT REENTER THE CABIN UNTIL IT HAS BEEN AIRED OUT AND THE PROBLEM FOUND AND CORRECTED.**

## 9.7 First Aid

It is the operator's responsibility to be familiar with the proper first-aid procedures and be able to care for minor injuries or illnesses of your passengers. In an emergency, you could be far from professional medical assistance. We strongly recommend that you be prepared by receiving training in basic first aid and CPR. This can be done through classes given by the Red Cross or your local hospital.



Your boat also should be equipped with at least a simple marine first-aid kit and a first-aid manual. The marine first-aid kit should be designed for the marine environment and be well supplied. It should be accessible and each person on board should be aware of its location. As supplies are used, replace them promptly. Some common drugs and antiseptics may lose their strength or become unstable as they age. Ask a medical professional about the supplies you should carry and the safe shelf life of prescription drugs or other medical supplies that may be in your first-aid kit. Replace questionably old supplies whether they have been used or not.

In many emergency situations, the Coast Guard can provide assistance in obtaining medical advice for treatment of serious injuries or illness. If you are within VHF range of a Coast Guard Station, make the initial contact on channel 16 and follow their instructions.

## 9.8 Additional Safety Equipment

Besides meeting the legal requirements, prudent boaters carry additional safety equipment. This is particularly important if you operate your boat offshore. You should consider the following items, depending on how you use your boat.

### Satellite EPIRBs

EPIRBs (Emergency Position Indicating Radio Beacon) operate as part of a worldwide distress system. When activated, EPIRBs will send distress code homing beacons that allow Coast Guard aircraft to identify and find them quickly. The satellites that receive and relay EPIRB signals are operated by the National Oceanic and Atmospheric Administration (NOAA) in the United States. The EPIRB should be mounted and registered according to the instructions provided with the beacon, so that the beacon's unique distress code can be used to quickly identify the boat and owner.

**Additional Equipment to Consider:**

VHF Radio	Life Raft	Spare Anchor
Heaving Line	Fenders	First Aid Kit
Flashlight	Mirror	Searchlight
Sunburn Lotion	Tool Kit	Ring Buoy
Whistle or Horn	Anchor	Chart and Compass
Boat Hook	Spare Propeller	Moorng Lines
Food & Water	Binoculars	Sunglasses
Marine Hardware	Extra Clothing	Spare Parts

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**PURSUIT.** 3000 EXPRESS

## *Chapter 10:* **OPERATION**

### **10.1 General**

Before you start the engines on your Pursuit, you should have become familiar with the various component systems and their operation, and have performed a "Pre-Cruise System Check." A thorough understanding of the component systems and their operation is essential to the proper operation of the boat. This manual and the associated manufacturers' information is provided to enhance your knowledge of your boat. Please read them carefully. Also read the book titled "Sportfish, Cruisers, Yachts - Owner's Manual," included in your literature packet.

Your boat must have the necessary safety equipment on board and be in compliance with the U.S. Coast Guard, local and state safety regulations. There should be one Personal Flotation Device (PFD) for each person. Nonswimmers and small children should wear PFDs at all times. You should know and understand the "Rules of the Road" and have had an experienced operator brief you in the general operation of your new boat. At least one other person should be instructed on the proper operation of the boat in case the operator is suddenly incapacitated.

The operator is responsible for his safety and the safety of his passengers. When boarding or loading the boat, always step onto the boat, never jump. All passengers should be properly seated whenever the boat is operated above idle speed. Your passengers should not be allowed to sit on the seat backs, gunnels, bows, transoms or on fishing seats whenever the boat is underway. The passengers also should be seated to properly balance the load and must not obstruct the operator's view, particularly to the front.

Overloading and improper distribution of weight can cause the boat to become unstable and are significant causes of accidents. Know the weight capacity and horsepower rating of your boat. Do not overload or overpower your boat. Remember, it is the operator's responsibility to use good common sense and sound judgment in loading and operating the boat.

### **10.2 Rules of the Road**

As in driving an automobile, there are a few rules you must know for safe boating operation. The following information describes the basic navigation rules and action to be taken by vessels in a crossing, meeting or overtaking situation while operating in inland waters. These are basic examples and not intended to teach all the rules of navigation. For further information consult the "Navigation Rules" or contact the Coast Guard, Coast Guard Auxiliary, Department of Natural

Resources, or your local boat club. These organizations sponsor courses in boat handling, including rules of the road. We strongly recommend such courses. Books or videos on this subject also are available from your local library.



SAILBOATS NOT UNDER POWER, PADDLE BOATS, VESSELS UNABLE TO MANEUVER, VESSELS ENGAGED IN COMMERCIAL FISHING AND OTHER VESSELS WITHOUT POWER HAVE THE RIGHT OF WAY OVER MOTOR POWERED BOATS. YOU MUST STAY CLEAR OR PASS TO THE STERN OF THESE VESSELS. SAILBOATS UNDER POWER ARE CONSIDERED MOTOR BOATS.

#### **Cruising Situations**

When two motor boats are cruising, the boat on the right has the right of way. The boat with the right of way should maintain its course and speed. The other vessel should slow down and permit it to pass. The boats should sound the appropriate signals.

#### **Meeting Head-On or Nearly-So Situations**

When two motor boats are approaching each other head-on or nearly head-on, neither boat has the right of way. Both boats should reduce their speed and turn to the right so as to pass port side to port side, providing enough clearance for safe passage. The boats should sound the appropriate signals.

#### **Overtaking Situations**

When one motor boat is overtaking another motor boat, the boat that is being passed has the right of way. The overtaking boat must make the adjustments necessary to provide clearance for a safe passage of the other vessel. The boats should sound the appropriate signals.

#### **The General Prudential Rule**

In obeying the Rules of the Road, due regard must be given to all dangers of navigation and collision, and to any special circumstances, including the limitations of the vessels, which may justify a departure from the rules that is necessary to avoid immediate danger or a collision.

#### **Navigation Aids**

Aids to navigation are placed along coasts and navigable waters as guides to mark safe water and to assist mariners in determining their position in relation to land and hidden dangers. Each aid to navigation is used to provide specific information. You should be familiar with these and any other markers used in your boating area.



STORMS AND WAVE ACTION CAN CAUSE BUOYS TO MOVE. YOU SHOULD NOT RELY ON BUOYS ALONE TO DETERMINE YOUR POSITION.



## 10.3 Pre-Cruise Check

### Before Starting the Engines:

- Check the weather forecast. Decide if the planned cruise can be made safely.
- Be sure all required documents are on board.
- Be sure all necessary safety equipment is on board and operative. This should include items like the running lights, spotlight, life saving devices, etc. Please refer to Chapter 9 for additional information on safety equipment.
- Make sure you have signal kits and flare guns aboard, and they are current and in good operating condition.
- Be sure you have sufficient water and other provisions for the planned cruise.
- Leave a written message listing details of your planned cruise with a close friend ashore (Float Plan). The float plan should include a description of your boat, where you intend to cruise, and a schedule of when you expect to arrive in the cruising area, and when you expect to return. Keep the person informed of any changes in your plan to prevent false alarms. This information will tell authorities where to look and the type of boat to look for in the event you fail to arrive.
- Check the amount of fuel on board. Observe the "rule of thirds": one third of the fuel for the trip out, one third to return and one third in reserve. An additional 15% may be consumed in rough seas.
- Check the water separating fuel filters (if installed) for water. The engine fuel filters also should be checked for leaks or corrosion.
- Turn the battery switches on the Power Plant on.
- Check the bilge water level. Look for other signs of potential problems. Monitor for the scent of fuel fumes.
- Test the automatic and manual bilge pump switches to make sure the system is working properly.
- Turn on the bilge blower. Check the blower output and operate five (5) minutes before starting the engine. The blower also should be activated when operating below cruising speed.

- Have a tool kit aboard. The kit should include the following basic tools:

Spark Plug Wrench	Hammer
Spark Plug Gap Gauge	Electrician's Tape
Screwdrivers	Lubricating Oil
Pliers	Jackknife
Adjustable Wrench	Vise Grip Pliers
Needle Nose Pliers	Wire Crimping Tool
End Wrench Set	Wire Connector Set



THERE MUST BE AT LEAST ONE PERSONAL FLOTATION DEVICE ON BOARD FOR EVERY PERSON ON BOARD AND ONE THROUGHOUT FLOTATION DEVICE. CHECK THE U.S. COAST GUARD STANDARDS FOR THE CORRECT TYPE OF DEVICE FOR YOUR BOAT.

- Have the following spare parts on board:

Extra light bulbs	Spark plugs
Fuses and circuit breakers	Flashlight and batteries
Dism plugs	Engine and transmission oil
Propellers	Fuel filters
Propeller nuts	Fuel hose and clamps

- Make sure all fire extinguishers are in position and in good operating condition.



VAPORIZING LIQUID EXTINGUISHERS GIVE OFF TOXIC FUMES. USE ONLY COAST GUARD APPROVED FIRE EXTINGUISHERS.

## 10.4 Operating Your Boat



GASOLINE VAPORS CAN EXPLODE. BEFORE STARTING THE ENGINES, OPERATE THE ENGINE COMPARTMENT BLOWER FOR FIVE (5) MINUTES. OPEN THE ENGINE HATCH, INSPECT THE FUEL SYSTEM AND CHECK THE ENGINES FOR THE ODOR OF GASOLINE VAPORS. ALWAYS OPERATE THE BLOWER WHILE THE ENGINES ARE AT IDLE. DO NOT START OR OPERATE THE ENGINES IF FUEL FUMES ARE PRESENT. UNDER NO CIRCUMSTANCES SHOULD THIS PROCEDURE BE OVERTLOOKED.

#### After Starting the Engines:

- Check the engine gauges. Make sure they are reading normally.
- Visually check the engines to be sure there are no apparent water, fuel or oil leaks.
- Check the operation of the engine cooling systems by inspecting the transom exhaust ports for water flow. (Refer to section 1-4)
- Check the steering and engine controls for proper operation.
- Make sure all lines, cables, anchors, etc. for securing a boat are on board and in good condition. All lines should be coiled, secured and off the decks when underway.
- Have a safe cruise and enjoy yourself!

#### Remember:

When you operate a boat, you accept the responsibility for the boat, for the safety of passengers and for others out enjoying the water.

- Alcohol and any drugs can severely reduce your reaction time and affect your better judgement.
- Alcohol severely reduces the ability to react to several different signals at once.
- Alcohol makes it difficult to correctly judge speed and distance, or track moving objects.
- Alcohol reduces night vision, and the ability to distinguish red from green.



YOU SHOULD NEVER OPERATE YOUR BOAT WHILE UNDER THE INFLUENCE OF ALCOHOL AND DRUGS.



MAKE SURE ONE OTHER PERSON ON THE BOAT IS INSTRUCTED IN THE OPERATION OF THE BOAT.



MAKE SURE THE BOAT IS OPERATED IN COMPLIANCE WITH ALL STATE AND LOCAL LAWS GOVERNING THE USE OF A BOAT.



**DO NOT OPERATE THE BOAT UNLESS IT IS COMPLETELY ASSEMBLED. KEEP ALL FASTENERS TIGHT. KEEP ADJUSTMENTS ACCORDING TO SPECIFICATIONS.**

- Always operate the blower when operating the boat below cruising speed.
- Avoid sea conditions that are beyond the skill and experience of you and your crew.
- Before operating the boat for the first time, read the engine break-in procedures. The break-in procedures are found in the owner's manual for the engines. The manual is in the literature packet.
- As different types of engines are used to power the boat, have the dealer describe the operating procedures for your boat. For more instructions on "How To Operate The Boat," make sure you read the instructions given to you in the owner's manual for the engines you have selected.

**Note:** For more instructions on safety, equipment and boat handling, enroll in one of the several free boating courses offered. For information on the courses offered in your area, call the "Boating Course Hotline," 1-800-368-5647.

**Note:** If the running gear hits an underwater object, stop the engines. Inspect the propulsion system for damage. If the system is damaged, contact your dealer for a complete inspection and repair of the unit.

To stop the boat, follow this procedure:

- Allow the engines to drop to the idle speed.
- Make sure the shifting levers are in the neutral position.

**Note:** If the engines have been run at high speed for a long period of time, allow the engines to cool down by running the engines in the idle position for 3 to 5 minutes.

- Put the ignition keys to the "OFF" position.

After Operation:

- If operating in saltwater, wash the boat and all equipment with soap and water.
- Check the bilge area for debris and excess water.
- Fill the fuel tanks to near full to reduce condensation. Allow enough room in the tanks for the fuel to expand without being forced out through the vent.

- Turn off all electrical equipment except the automatic bilge pumps.
- If you are going to leave the boat for a long period of time, put the battery main switches in the "OFF" position and close all seacocks.
- Make sure the boat is securely moored.



TO PREVENT DAMAGE TO THE BOAT, CLOSE ALL SEACOCKS BEFORE LEAVING THE BOAT.

## 10.5 Grounding and Towing

If the boat should become disabled, or if another craft that is disabled requires assistance, great care must be taken. The stress applied to a boat during towing may become excessive. Excessive stress can damage the structure of the boat and create a safety hazard for those aboard.

Freeing a grounded vessel, or towing a boat that is disabled, requires specialized equipment and knowledge. Line failure and structural damage caused by improper towing have resulted in fatal injuries. Because of this, we strongly suggest that these activities be left to those who have the equipment and knowledge, e.g., the U.S. Coast Guard or a commercial towing company, to safely accomplish the towing task.



THE MOORING CLEATS ON PURSUIT BOATS ARE NOT DESIGNED OR INTENDED TO BE USED FOR TOWING PURPOSES. THESE CLEATS ARE SPECIFICALLY DESIGNED AS MOORING CLEATS FOR SECURING THE BOAT TO A DOCK, PIER, ETC. DO NOT USE THESE FITTINGS FOR TOWING OR ATTEMPTING TO FREE A GROUNDED VESSEL.



WHEN TOWING OPERATIONS ARE UNDERWAY, HAVE EVERYONE ABOARD BOTH VESSELS STAY CLEAR OF THE TOW LINE AND SURROUNDING AREA. A TOW LINE THAT SHOULD BREAK WHILE UNDER STRESS CAN BE VERY DANGEROUS AND COULD CAUSE SERIOUS INJURY OR DEATH.



RUNNING AGROUND CAN CAUSE SERIOUS INJURY TO PASSENGERS AND DAMAGE TO A BOAT AND ITS UNDERWATER GEAR. IF YOUR BOAT SHOULD BECOME GROUNDED, DISTRIBUTE PERSONAL FLOATION DEVICES AND INSPECT THE BOAT FOR POSSIBLE DAMAGE. THOROUGHLY INSPECT THE BILGE AREA FOR SIGNS OF LEAKAGE. AN EXPERIENCED SERVICE FACILITY SHOULD CHECK YOUR UNDERWATER GEAR AT THE FIRST OPPORTUNITY. DO NOT CONTINUE TO USE YOUR BOAT IF THE CONDITION OF THE UNDERWATER EQUIPMENT IS QUESTIONABLE.

## 10.6 Fishing

Fishing can be very exciting and distracting for the operator when the action gets intense. You must always be conscious of the fact that your primary responsibility is the safe operation of your boat and the safety of your passengers and other boats in the area.

You must always make sure the helms is properly manned and is never left unattended while trolling. If your boat is equipped with a tower, caution and good common sense must be exercised whenever someone is in the tower. Most towers are designed for two average-sized people. Remember, weight in the tower raises the boat's center of gravity and the boat's motion is greatly exaggerated for the people in a tower.

If you are fishing in an area that is crowded with other fishing boats, it may be difficult to follow the rules of the road. This situation can become especially difficult when most boats are trolling. Being courteous and exercising good common sense is essential. Avoid trying to assert your right of way and concentrate on staying clear and preventing tangled or cut lines and other unpleasant encounters with other boats. Also keep in mind that fishing line wrapped around a propeller shaft can damage the strut bearing.

## 10.7 Tower Operation (Dealer Option)

Your boat could be equipped with a fabricated aluminum tower by your dealer. Towers are usually equipped with full engine controls, trim tabs controls, compass, engine alarms, restart buttons and tachometers. This allows for complete operation of the boat from the tower.

### Operation of the Tower Controls

The engines should be started at the lower helm. Monitor the gauges or make sure all systems are normal and the engines have been allowed to warm up slightly before proceeding to the tower helm. The ignition or restart switches on the tower are only used to restart an engine in the event it should stall. The shift controls must be in neutral for the start switches to be functional.

The following is a list of safety precautions for tower operation:

- Do not operate the boat from the tower in rough sea conditions. The boat's motions are exaggerated in the tower and this motion may become excessive in rough seas.
- Be careful when using the trim tabs from the tower. The reaction of the trim tabs will be exaggerated in the tower. Use small tab corrections and wait ten (10) seconds for the tabs to react. Keep making small corrections until the hull is at the desired angle.
- Do not overtax the tower. Most towers are designed to hold the weight of only two average-sized people. Weight in the tower raises the boat's center of gravity. Too much weight in the tower could make the boat unstable.

- Do not operate the boat in tight quarters, such as marinas, from the tower. The operator is isolated from the boat while in the tower and will not be able to assist in docking procedures.
- Always pay close attention to your grip and footing on the tower ladders. Your ability to achieve a good grip and proper footing is reduced in water or rough weather. Therefore, the tower should be avoided in these conditions.
- Only operate the boat from the tower in familiar waters or where running aground is not a possibility. Running aground while operating the boat from the tower could result in severe injury.
- Always be alert for waves and boat wakes when operating the boat from the tower. Remember that the boat's motions are exaggerated in the tower.
- Good common sense and judgment must be exercised at all times when operating a boat from the tower.
- If an engine alarm sounds, immediately put the boat in NEUTRAL and shut OFF the engine(s) until the problem is found.
- Always put the boat in NEUTRAL before moving to and from the tower helm and cockpit.



GOOD COMMON SENSE, JUDGEMENT AND EXTREME CAUTION MUST BE EXERCISED WHEN OPERATING A BOAT WITH SOMEONE IN THE TOWER. DO NOT ALLOW ANYONE IN THE TOWER WHEN THE WATER IS ROUGH OR WHEN OPERATING IN UNFAMILIAR WATERS WHERE RUNNING AGROUND IS A POSSIBILITY. REMEMBER, WEIGHT IN THE TOWER RAISES THE BOAT'S CENTER OF GRAVITY AND THE BOAT'S MOTION IS GREATLY EXAGGERATED FOR THE PEOPLE IN THE TOWER.

## 10.8 Transporting Your Boat

The Pursuit 3000 Express is a large boat and should only be trailered by professionals that have the knowledge and equipment to move large boats without causing damage.

Please contact your dealer or the Pursuit Customer Relations Department if you are planning to transport your boat and have any questions in regard to the proper equipment and support for the hull.



BOATS HAVE BEEN DAMAGED BY TRAILERS THAT DON'T PROPERLY SUPPORT THE HULL. ALWAYS MAKE SURE THE TRAILER BUNKS AND PADS ARE ADJUSTED SO THEY ARE NOT PUTTING EXCESSIVE PRESSURE ON THE LIFTING STRAKES AND ARE PROVIDING ENOUGH SUPPORT FOR THE HULL. HULL DAMAGE RESULTING FROM IMPROPER TRAILER SUPPORT IS NOT COVERED BY THE PURSUIT WARRANTY.



## Chapter 11: EXTERIOR EQUIPMENT

### 11.1 Deck

#### Rails and Deck Hardware

The rail system and hardware fittings have been selected and installed to perform specific functions. Fenders or mooring lines should be secured in the cleats and not to rails or stanchions. The stern is equipped with a hose pipe and cleat system. Mooring lines should be fed through the hose pipe then secured to the stern cleats. Be sure no clear lead exists when mooring dock lines or anchor lines. A line inadvertently run around a stanchion or over the rail could cause damage.

**Important Note:** All fittings must be inspected periodically for loose fit or wear and damage. Any problems should be corrected immediately.



PURSUIT BOATS ARE NOT EQUIPPED WITH HARDWARE DESIGNED FOR TOWING PURPOSES. THE MOORING CLEATS ARE NOT TO BE USED FOR TOWING ANOTHER VESSEL OR HAVING THIS BOAT TOWED.

#### Bow Pulpit and Roller

The bow pulpit is built into the hull and is equipped with a roller assembly that allows the anchor to be opened and stored at the pulpit. The pulpit roller is designed for a Delta<sup>®</sup> plow or a Danforth<sup>®</sup> style anchor. The anchor line is stored in the rope locker and routed out the rope locker hatch, through the roller and connected to the anchor chain. A cleat or chain bander is provided on the deck near the pulpit to secure the anchor. Always make sure the anchor is properly secured when it is in the stored position on the pulpit.

#### Anchor/Rope Locker

The anchor locker is in the bow of the boat and accessed through a hatch in the deck. The locker is recessed for a Danforth style anchor. The anchor line is always stored in the locker. If an anchor is stored in the anchor locker, it must be properly secured to prevent it from bouncing in the locker and causing damage to the hull or anchor locker.



Bow Pulpit, Roller and  
Anchor/Rope Locker

The anchor locker is drained by thru hull fittings on the hull side near the bottom of the locker. It is very important to check the drains frequently to make sure they are clean and free flowing.



**THE ANCHOR MUST BE POSITIONED SO IT DOES NOT REST AGAINST THE HULL SIDES AND BE PROPERLY SECURED AT ALL TIMES WHEN IT IS STORED IN THE ANCHOR LOCKER. A LOOSE ANCHOR IN THE ANCHOR LOCKER WILL BOUNCE AND CAN DAMAGE THE BOAT. DAMAGE RESULTING FROM THE ANCHOR BOUNCING IN THE ANCHOR LOCKER IS NOT COVERED BY THE PURSUIT WARRANTY.**

#### **Windlass (Optional)**

The optional windlass is mounted to the deck near the rear of the pulpit above the rope locker. The anchor is stored on the pulpit and is raised and lowered by the windlass. The anchor line is stored in the rope locker and reeled out through the windlass to the anchor chain.

The anchor is lowered by releasing the anchor from the cleat or chain binder on the pulpit and operating a "DOWN" control at the helm. The windlass control switch is activated by a breaker located on the Power Panel. Push the button on the breaker in to activate the windlass control, the breaker button can be pulled out to deactivate the windlass switch when the windlass is not in use.

After the anchor is set, the windlass must not be left to take the entire force from the anchor line. Boats flying to their anchor in a high swell or heavy weather conditions will grab on the line. This can cause slippage or apply excessive loads to the windlass. The line should be made fast to a bow cleat to relieve the load on the windlass.

The anchor is hauled in by releasing the line from the bow cleat and operating the "UP" control at the helm. Once the anchor is retrieved, independently secure the anchor to the chain binder or a cleat to prevent it from being accidentally released. This is especially important while the boat is under way.

The windlass manufacturer provides an owner's manual with its product. It is extremely important that you read the manual and become familiar with the proper care and operation of the windlass.



**A WINDLASS MUST BE USED WITH CARE. IT IS EXTREMELY IMPORTANT THAT YOU READ THE OWNER'S MANUAL AND BECOME FAMILIAR WITH THE SAFETY INSTRUCTIONS AND PROPER OPERATION OF THE WINDLASS BEFORE USING IT WITH YOUR BOAT. ALWAYS ENSURE THAT LIMBS, FINGERS, HAIR AND CLOTHING ARE KEPT CLEAR OF THE WINDLASS AND ANCHOR LINE DURING OPERATION.**



**DO NOT USE A WINDLASS AS A SOLE MEANS OF SECURING AN ANCHOR IN THE BOW PULPIT. ALWAYS SECURE THE ANCHOR LINE TO A CLEAT OR CHAIN BINDER BEFORE OPERATING YOUR BOAT.**

### **Windshield**

The Pursuit 3000 Express is equipped with a vented heavy duty aluminum windshield with tinted glass and built in hand rails. The windshield is equipped with an opening vent panel on each side of the windshield. To open the vent, release the locking T-handles and open the vent to the desired position. Lock the vent in place by turning the T-handles 1/4 turn. The friction of the T-handle in the guide will hold the vent in that position. The front and side wing panels are tempered safety glass. The curved glass panels on the port and starboard side of the windshield are made of tinted acrylic plastic glass.



Windshield

Acrylic glass scratches easily. Never use a dry cloth or glass cleaning solutions on acrylic. Use a soft cloth and mild soap and water for routine cleaning. Solvents and products containing ammonia can permanently damage acrylic. Please refer to the Routine Maintenance chapter for more information on the proper care and maintenance of acrylic plastic glass.

## **11.2 Hull**

### **Swim Platform (Optional)**

Your Pursuit could be equipped with an optional swim platform in the stern of the boat. The swim platform should only be installed by the Pursuit factory at the time of construction or by an authorized Pursuit dealer. Improper swim platform installation can damage the boat's transom or interfere with the transom door.

A boarding ladder is recessed into the swim platform under a special hatch. To use the ladder, open the hatch in the middle of the swim platform. Then pull the ladder out of the recess and unfold it to the open position. The ladder must be folded into the recess and the ladder hatch properly secured before starting the engines.



**MOVING PROPELLERS ARE DANGEROUS. THEY CAN CAUSE DEATH, LOSS OF LIMBS, OR OTHER SEVERE INJURY. DO NOT USE THE SWIM PLATFORM OR SWIM LADDER WHILE THE ENGINES ARE RUNNING. STOP THE ENGINES IF DIVERS OR SWIMMERS ARE ATTEMPTING TO BOARD. ALWAYS REMOVE AND PROPERLY STORE THE LADDER BEFORE STARTING THE ENGINES.**

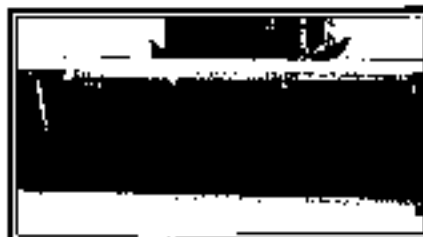
### **Trim Tabs**

The trim tabs are recessed into the hull below the swim platform. The trim tabs are an important part of the control systems. Please refer to the Helm Control Systems chapter for detailed information on the trim tabs.

## **11.3 Cockpit**

### **Engine Access**

Access to the engines is provided by a day hatch, located between the helm and the passenger seat or by raising the bridge deck above the engine room. The bridge deck is raised by electric hatch lifters actuated by a switch in the cockpit under the gunnel. The aft end of the bridge deck is lifted and lowered by the electric actuators. The weight of water in the livewell puts additional strain on the hinges and the hatch lifters. You should never lift the bridge deck with the livewell full.



*Engine Hatch*



**A FULL LIVEWELL DRAMATICALLY INCREASES THE WEIGHT OF THE BRIDGE DECK AND WILL CAUSE DAMAGE TO THE BRIDGE DECK OR THE HATCH LIFTER WHEN LIFTING THE BRIDGE DECK. DAMAGE TO THE BRIDGE DECK OR HATCH LIFTER COULD CAUSE THE BRIDGE DECK TO DROP CAUSING SEVERE INJURY TO SOMEONE IN THE ENGINE COMPARTMENT. ALWAYS EMPTY THE LIVEWELL BEFORE LIFTING THE BRIDGE DECK AND ENTERING THE ENGINE COMPARTMENT.**

### **Cockpit Storage and Optional Livewell**

The L-shaped lounge passenger seat is mounted on a large storage box. A cooler or optional circulating livewell is located behind the lounge seat. The insulated cooler livewell is supplied by a raw water circulating pump and drains overboard when the livewell system is installed. Refer to the Raw Water System chapter for additional information on the livewell system.

### **Tackle Lockers and Prep/Entertainment Center**

The prep/entertainment center is equipped with a sink, cutting board, tackle locker, refrigerator or optional ice maker, aft facing seat and storage area. The sink is plumbed to the fresh water system and is drained by gravity to a thru hull fitting on the hull side above the waterline.

A large tackle locker is built into the helm seat base. The tackle locker is lockable and has four storage drawers.

### **Refrigerator and Ice Maker**

A dual voltage refrigerator or a 12-volt ice maker is supplied as optional equipment and is mounted in the prep/entertainment center. The refrigerator will operate on 110-volt AC or 12-volt DC power. It switches to 12-volt DC automatically when the AC power is disconnected and the proper breaker is activated on the cabin DC panel. When 110-volt AC current is provided by the ice maker circuit breaker on the 110-volt panel, the refrigerator automatically switches to AC power. The ice maker operates on 110-volt AC power only.

Care should be exercised while operating the refrigerator on 12-volt power without the engine running. It draws a substantial amount of current and can severely drain a battery through extended use. The refrigerator or ice maker door has a special latch to secure the door while under way, make sure the door is properly secured whenever the boat is moving. Refer to the refrigerator or ice maker owner's manual for additional operating and maintenance instructions.

### **Transom Door and Gate**

A transom door and gate is incorporated into the transom. The gate is secured by a latch on the underside, and the door is secured by a special latch mounted on the inboard side of the door. The transom door and gate should only be opened when the boat is not in motion. The door must be latched in either the full "OPEN" or full "CLOSED" position. Never leave the transom door unlatched.

**Note:** Periodically inspect the transom door and gate fittings for wear, damage, or loose fit. Any problems should be inspected and corrected immediately.



THE TRANSOM DOOR OR GATE SHOULD BE CLOSED AND PROPERLY LATCHED WHENEVER THE ENGINES ARE RUNNING. NEVER OPEN THE TRANSOM DOOR WHILE UNDERWAY OR IN ROUGH SEA CONDITIONS. IN CERTAIN SITUATIONS, AN OPEN TRANSOM DOOR COULD ALLOW A SUBSTANTIAL AMOUNT OF WATER TO ENTER THE COCKPIT, CREATING A POTENTIALLY DANGEROUS CONDITION.



OPERATING THE BOAT UNDER POWER WITH THE TRANSOM DOOR AND GATE OPEN MAY ALLOW PERSONS TO FALL OVERBOARD AND INTO BOAT PROPELLERS OR TO BE LOST IN OPEN WATER. ALWAYS CHECK TO MAKE SURE THE TRANSOM DOOR AND GATE IS PROPERLY CLOSED AND LATCHED BEFORE STARTING THE ENGINES AND NEVER OPERATE THE BOAT UNDER POWER WITH THE TRANSOM DOOR AND GATE OPEN.

### **Below Deck Stern Fishbox**

A fishbox is located in the stern below the cockpit sole. The fishbox is drained by a macerator pump located in the bilge and activated by a momentary switch in the rear of the cockpit near the transom door. A momentary switch is used because the pump will be damaged if it is allowed to run dry for more than 30 seconds. The fishbox should be pumped out and cleaned after each use. Refer to the Drainage Systems chapter for more information on the fishbox drainage.

### **Cockpit Shower**

A freshwater shower is located behind a small deck in the cockpit. It is supplied hot and cold water by the freshwater system and works much like the shower in the head.

### **Stern Seat**

A recessed fold down seat is built into the rear of the cockpit. To use the seat, release the latches by pulling sharply on the lower edge of the seat. Then pull the strap at the bottom of the seat toward the cockpit. The seat will move into the proper position as it slides out from the stored position. Make sure the rear of the seat locks into the slot in the center of the recess. To store the seat, pull the seat forward and simultaneously push the front down and toward the rear of the cockpit. This will cause the seat to fold into the recess in the rear of the cockpit. To secure the seat in the stored position, make sure the male studs on the seat line up properly with the female sockets mounted on the rear of the recess for the seat. Secure the seat with a sharp push to snap the studs into the sockets.



*Stern Seat*

### **Helix Seat (PEDISTAL)**

The helix seat is a pedestal seat that swivels and adjusts fore and aft. There are two levers and one tension knob on the seat base. Lifting the lever located at the front of the seat base allows the seat to be adjusted fore and aft. Releasing the lever locks the seat in that position. Lifting the lever on the port side of the seat base releases the pivot lock and allows the helix seat to be swiveled on the pedestal. The helix seat will automatically lock when it is swiveled back to the operating position. The friction knob adjusts the tension of seat base on the pedestal and is also located on the port side of the seat. It should be adjusted to allow the seat to be swiveled when the swivel lock is released and tight enough to eliminate play between the seat base and the pedestal.

### **Helix**

The helm and engine controls are located on an opening helm station. The helm station is hinged at the bottom and opens to provide access to service the helm equipment or to install electronics.

To open the helm station, slide the helix seat back as far as it will go and release the special clamps at the top of the helm by pulling sharply on the handle at the top of the helm. A strap holds the helm in the open position and prevents it from opening too far. To close the helm station, push the top of the helm toward the bulkhead and make sure the male studs on the helm line up properly with the female sockets mounted on the bulkhead. Secure the helm with a sharp push to snap the studs into the sockets. Always check to make sure the helm station is properly secured when the helm is closed.



*Helm*



ALWAYS MAKE SURE THE HELM STATION CLAMPS ARE PROPERLY SECURED BEFORE OPERATING OR TRANSPORTING YOUR BOAT. IF THE HELM STATION IS NOT PROPERLY SECURED, IT COULD OPEN UNEXPECTEDLY AND DAMAGE THE BOAT OR CAUSE LOSS OF CONTROL.



UNDER NO CIRCUMSTANCES SHOULD THE HELM BE OPENED WHEN THE ENGINES ARE RUNNING. IN SOME SITUATIONS IT IS POSSIBLE TO ACCIDENTALLY ENGAGE THE ENGINE SHIFTS INTO GEAR AND/OR ADVANCE THROTTLE CONTROLS AS THE HELM IS OPENING. THIS COULD RESULT IN LOSS OF CONTROL, DAMAGE TO THE BOAT, AND INJURY TO PASSENGERS.

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## *Chapter 12:* **INTERIOR EQUIPMENT**

### **12.1 Head Compartment and Marine Toilet**

The head compartment is equipped with a sink, hot and cold faucet that converts to a shower by pulling the faucet out of the base. A special seat folds down over the toilet to make showering more comfortable.

Storage is in the vanity over the counter top and behind the door under the sink. Daylight and ventilation is provided by an opening port light above the sink. There is also a 12-volt overhead light. A 110-volt G.F.I. duplex outlet is provided next to the door below the sink.

#### **Marine Head System**

Your boat is equipped with a VacuFlush marine head system as standard equipment. VacuFlush systems use a small amount of water (one pint to one quart) and vacuum which is generated by the 12-volt vacuum pump to flush. The toilet is connected to the pressurized fresh water system. Using fresh water results in less odor in the head compartment.

To use the toilet, make sure the "Electric Head" breaker on the cabin DC breaker panel is on. Then add water to wet the bowl by lifting the flush lever slightly until the desired water level is reached. Flush the toilet by lifting the flush lever all the way for a minimum of three seconds until contents clear the bowl. A sharp popping noise is normal when the vacuum seal is broken and flushing action begins. It is also normal for a small amount of water to remain in the bowl after flushing.



*Marine Head*



*Holding Tank*

The waste is transferred into the holding tank where it remains until it is pumped out by a waste dumping station or the overboard macerator discharge system. The waste moves through a one-inch opening in the toilet base. Inerting air fragments the waste as it passes through the base opening. This process eliminates the need for macerators or mechanical motors in the toilet base.

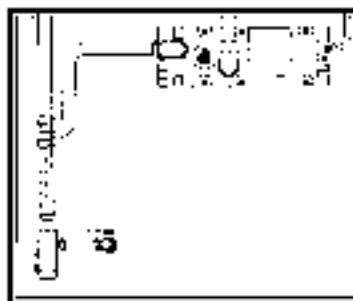
The vacuum generator is mounted on the holding tank which contains stored vacuum. System vacuum is monitored by a vacuum switch which is located on the tank. When the switch senses a drop in vacuum in the system, it automatically signals the pump to energize and bring the vacuum back to operating level. This process is normally completed in less than two minutes.

It is normal for the stored vacuum to leak down slightly between flushes, causing the vacuum pump to run for a short period. The pump should not run more than once every three hours after the last flush for recharging the system. Please refer to the toilet manufacturer owner's manual for more information on the operation of the marine head system.

#### **Holding Tank and Macerator Discharge Pump**

The holding tank is located in the engine compartment. The Y-valve and macerator switch are located on the rear engine room hullhead and accessed by lifting the bridge deck.

When the tank is full it must either be pumped out by an approved waste dumping station through the waste deck fitting or be pumped overboard with the optional macerator discharge pump, when legal to do so. The Y-valve is used to select the waste deck fitting or the overboard macerator discharge pump.



Y-Valve with Macerator

To operate the macerator discharge pump, move the Y-valve handle to the macerator pump-out position, open the ball valve at the overboard discharge thru ball fitting. Then activate the macerator switch located in the bilge near the Y-valve, until the tank is emptied. Turn the switch to "OFF" and close the discharge ball valve when pumping is complete.

**Note:** The macerator discharge pump can only be run dry for a couple of seconds. Allowing the macerator pump to run after the holding tank is empty will cause damage to the pump.



**IN MANY AREAS IT IS ILLEGAL TO FLUSH HEAD WASTE DIRECTLY OVERBOARD. VIOLATION OF THESE POLLUTION LAWS CAN RESULT IN FINES OR IMPRISONMENT. ALWAYS KNOW THE LAW FOR THE AREAS IN WHICH YOU BOAT. NEVER DUMP HEAD OR HOLDING TANK WASTE OVERBOARD ILLEGALLY.**

#### **Maintenance**

The head should be cleaned and inspected for leaks regularly.

The holding tank should be pumped out and flushed as needed. Periodically add chemical to the head to help control odor and to chemically break down the waste. See the manufacturer owner's manual for additional operating and maintenance information.



THE HEAD AND MACERATOR DISCHARGE SYSTEM MUST BE PROPERLY WINTERIZED BEFORE WINTER LAY-UP. SEE SECTION ON WINTERIZING.

## 12.2 Galley and Sink

The galley is equipped with storage and a fresh water sink with hot and cold faucets. Water is supplied to the sink by a 12-volt pump located in the stern bilge. When activated by the water pressure breaker in the 12-volt panel, the water system will operate much like the water system in a home. An automatic pressure sensor keeps the system pressurized. The sink drains overboard through the cabin drain system or to a sump pump system below the cabin steps or the head vanity compartment, depending on the equipment installed in your boat. See the Fresh Water System chapter for more information on operating the fresh water system.



Galley

Daylight and fresh air is provided to this area by an opening port window and by an overhead opening hatch. Additional lighting is provided by two 12-volt lights on either end of the galley.

### Stove

The galley is equipped with a single burner electric stove recessed into the counter top. To activate the stove, make sure the stove breaker in the AC breaker panel is on and remove the stove cover. Then turn the control knob on the stove clockwise to turn the burner on. A manual for the stove is included with your boat. It is extremely important that you read the manual and become familiar with the proper care and operation of the stove before attempting to use it.

After cooking, be sure the element is turned off. Always be sure the burner is off and allowed to cool before placing the cover back on the stove.



THE STOVE IS DESIGNED AS AN APPLIANCE FOR COOKING FOOD. DO NOT ATTEMPT TO USE THE STOVE TO HEAT THE CABIN. USING THE STOVE TO HEAT THE CABIN COULD CAUSE THE STOVE TO OVER HEAT RESULTING IN DAMAGE TO THE STOVE OR A CABIN FIRE.

### **Refrigerator (AC - DC)**

A dual voltage refrigerator is supplied as standard equipment and is mounted in the galley. This unit will operate on 110-volt AC or 12-volt DC power. The refrigerator switches to 12-volt DC automatically when the AC power is disconnected and the refrigerator breaker is activated on the cabin DC panel. When 110-volt AC current is provided by the refrigerator circuit breaker on the 110-volt panel, the refrigerator automatically switches to AC power.

Care should be exercised while operating the refrigerator on 12-volt power without the engines running. It draws a substantial amount of current and can severely drain a battery through extended use. The refrigerator door has a special latch to secure the door while under way, make sure the door is properly secured whenever the boat is moving. Refer to the refrigerator owner's manual for additional operating and maintenance instructions.

### **Microwave Oven**

A microwave oven is provided as standard equipment on the 3000 Express Fisherman. The microwave operates on 110-volt AC power and is protected by the microwave breaker on the 110-volt AC breaker panel.

Please refer to the microwave owner's manual for detailed information on the microwave oven installed in your boat.

## **12.3 Convertible Dinette and Table**

The dinette is on the starboard side of the cabin. It is equipped with a table and two lounge seats that will seat four people when the table is in the up position. There is a storage compartment below a hatch under each seat cushion. If the optional air conditioning is installed, the rear lounge seat storage area will be occupied by the air conditioning unit and should not be used for storage. The table is mounted on an adjustable pedestal that allows the dinette to be converted to a double berth.



Convertible Dinette

To convert the dinette to a double berth, lift the cam lock lever on the pedestal base. Then carefully push the table down until it seats on the teak table supports on each lounge seat. Secure the table in the down position by pushing the cam lock lever down on the pedestal base. Place the separate berth cushions on the table top to complete the berth conversion. The table also should be lowered to the berth position whenever the boat is out of shore or in heavy sea conditions.

Daylight and fresh air is provided to this area by two opening port windows and by an overhead opening hatch. Additional lighting is provided by 12-volt lights on either end of the dinette. The air conditioning control unit, the AC and DC breaker panels, and the carbon monoxide detector are located on the rear dinette bulkhead. The hanging locker and built-in stereo are mounted at the forward end of the dinette. There is also recessed lighting below the rear end of the base of the raised dinette floor that is activated by the switch on the starboard side of the companionway.

#### **Carbon Monoxide Detector**

A carbon monoxide (CO) monitor is installed in the cabin on the rear bulkhead of the dinette. If excess carbon monoxide fumes are detected, an audible beeping will sound indicating the presence of the toxic gas.

A by-product of combustion, carbon monoxide is invisible, tasteless, odorless, and is produced by all engines, heating and cooking appliances. The most common sources of CO on boats are gasoline engines and auxiliary generators and propane or butane stoves. These produce large amounts of CO and should never be operated while sleeping.

Please read the owner's manual supplied by the detector manufacturer for operation instructions and additional information regarding the hazards of carbon monoxide gas. Also read more about carbon monoxide, carbon monoxide detectors, and proper ventilation in the Ventilation Systems and Safety Equipment chapters in this manual. This is especially essential if your boat is equipped with the optional generator. If you did not receive a manual for your carbon monoxide monitor, please contact the Pursuit Customer Relations Department.



*Carbon Monoxide Detector*



**ACTIVATION OF THE CARBON MONOXIDE MONITOR INDICATES THE PRESENCE OF CARBON MONOXIDE (CO) WHICH CAN BE FATAL. EVACUATE THE CABIN IMMEDIATELY. DO A HEAD COUNT TO CHECK THAT ALL PERSONS ARE ACCOUNTED FOR. DO NOT REENTER THE CABIN UNTIL IT HAS BEEN AIRED OUT AND THE PROBLEM FOUND AND CORRECTED.**

## 12.4 Air Conditioner (Optional)

The air conditioning unit is the reverse cycle type and operates on 110-volt AC power. The unit is equipped with reverse cycle heat and can be operated as a cooling or heating unit. It is protected by the accessory breaker in the 110-volt breaker panel. To operate, make sure the thru hull valve for the air conditioner raw water supply pump is on. Turn the air conditioner breaker in the AC breaker panel to the "ON" position. The unit then will be controlled by the air conditioning control panel in the cabin. When activated, water should continuously flow from the overboard drain thru hull. See the Raw Water System chapter and the air conditioner owner's manual for additional operating and maintenance instructions.



Air Conditioning Control Panel

The air conditioning unit is installed below the rear seat of the dinette. To avoid damage to the air conditioner, you should make sure that no items are stored in this compartment if the air conditioning option is installed in your boat.

**Note:** Air conditioners use surface water as a cooling medium. The boat must be in the water and the raw water supply system must be properly activated prior to use. Operation without proper cooling could cause the air conditioning circuit breaker to trip and could cause system damage. Always check for proper water flow out of the air conditioning pump discharge thru hull when the air conditioner is operating.

## 12.5 V-Berth

A large v-berth is located in bow area of the cabin forward of the dinette and hanging locker. There are storage compartments below benches under each v-berth cushion. Daylight and fresh air is provided to this area by an overhead opening hatch. Additional lighting is provided by two 12-volt lights on the forward bulkhead.

## *Chapter 13:* **ROUTINE MAINTENANCE**

### **13.1 Exterior Hull and Deck**

#### **Hull Cleaning-Below The Water Line**

When the boat is removed from the water, clean the outer bottom surface immediately. Algae, grass, dirt and other marine growths easier to remove while the hull is still wet. Use a pressure cleaner or a hard bristle brush to clean the surface.

#### **Bottom Painting**

If the boat is to be left in saltwater for extended periods, the hull must be protected from marine growth by antifouling paint. Because of variations in water temperature, marine growth, and pollutants in different regions, your dealer and/or a qualified boat yard in your area should be consulted when deciding what bottom paint system to apply in your hull. This is extremely important as pollution and marine growth can damage fiberglass hulls.



**TO PREVENT DAMAGE TO THE FIBERGLASS, DO NOT SAND THE OUTER BOTTOM GELCOAT SURFACE OF THE BOAT. SANDING THE GELCOAT WILL VOID THE 5-YEAR BUBBLER FREE WARRANTY. USE ONLY CHEMICAL WAX REMOVERS AND PRIMERS RECOMMENDED BY THE BOTTOM PAINT MANUFACTURER TO PREPARE THE GELCOAT SURFACE FOR BOTTOM PAINT.**

Most bottom paints require some maintenance. Proper maintenance is especially important when the boat is in saltwater and not used for extended periods or after dry storage. If the hull bottom has been painted with antifouling paint, contact your dealer for the recommended maintenance procedures.

#### **Zincs**

Sacrificial zinc anodes are installed on the inboard engine's freshwater cooling system and on the transom. The transom zinc is connected to the bonding system and protects the rudder assemblies, shaft logs, trim tab hinges and other underwater hardware that is bonded. An additional zinc anode should be installed on the propeller shafts and the trim tab plates if the boat is to be left in the water.

The anodes are less noble than copper based alloys and aluminum and will deteriorate first, protecting the more noble engine and underwater hardware against galvanic corrosion. Zincs should be checked monthly and changed when they are 75% of their original size. When replacing the anodes, make sure the contact surfaces are clean, shiny metal and free of paint and corrosion. Never paint over the anode.

Boats stored in salt water will normally need to have the anodes replaced every 6 months to one year. Anodes requiring replacement more frequently may indicate a stray current problem within the boat or at the slip or marina. Anodes that do not need to be replaced after one year may not be providing the proper protection. Loose or low quality anodes could be the problem. Contact your dealer for the proper size and type of zinc anodes to be used and the specific installation procedure.

#### **Fiberglass Gelcoat Surfaces**

Normal maintenance requires only washing with mild soap and water. A stiff brush can be used on the nonskid areas. Kerosene or commercially prepared products will remove oil and tar which could be a problem on trailered boats. Harsh abrasive and chemical cleaners are not recommended because they can damage or dull the gelcoat, reducing its life and making it more susceptible to staining. When the boat is used in salt water, it should be washed thoroughly with soap and water after each use.

At least once a season, wash and wax all exposed fiberglass surfaces. Use a high quality automotive or boat wax. Follow the procedure recommended by the wax manufacturer. The washing and waxing of your boat will have the same beneficial effects as they have on an automobile finish. The wax will fill minute scratches and pores thus helping to prevent soiling and will extend the life of the gelcoat.

After the boat is exposed to the direct sunlight for a period of time, the color in the gelcoat tends to fade, dull or chalk. A boarver buffing is required to bring the gelcoat back to its original luster. For power-cleaning use a light cleaner. To clean the boat by hand, use a heavier automotive cleaner. Before cleaning the surfaces, read the instructions given with the cleaner. After cleaning the surfaces, apply wax and polish all fiberglass surfaces except the nonskid areas.

If the fiberglass should become damaged and need repair, contact your dealer for an authorized repair person to make the repairs.



**DO NOT WAX NONSKID AREAS AS THIS COULD MAKE THEM SLIPPERY AND CONSEQUENTLY INCREASE THE POSSIBILITY OF INJURY.**

#### **Stainless Steel Hardware**

When using the boat in saltwater, the hardware should be washed with soap and water after each use. When your boat is used in a corrosive environment such as saltwater, water with a high sulfur content, or polluted water, the stainless steel will periodically develop surface rust stains. This is perfectly normal under these conditions. The stainless can normally be cleaned and protected by using a high quality boat or automotive wax or a commercial metal cleaner and protectant.



**UNDER NO CIRCUMSTANCES SHOULD ANY ABRASIVE MATERIALS SUCH AS SANDPAPER, BRONZE WOOL, OR STEEL WOOL BE USED ON STAINLESS STEEL. DAMAGE TO THE HARDWARE WILL RESULT.**



#### Anodized Aluminum Surfaces

Anodized aluminum should be washed periodically with soap and water to keep it clean. If the boat is used in salt water or polluted water, the aluminum should be washed with soap and water after each use. Salt water allowed to remain on anodized aluminum will penetrate the anodized coating and attack the aluminum.

Hardtops with aluminum frames, Bimini tops and covers with canvas and/or fiberglass tops require special attention to the anodized aluminum just below the top. This area is subject to salt build up from salty condensation and sea spray. It is also frequently overlooked when the boat is washed and will not be rinsed by the rain. Consequently, the aluminum just below the top is more likely to become pitted than the exposed aluminum on the structure. Make sure the aluminum in this area is washed frequently with soap and water and rinsed thoroughly. Pay particular attention to places where the top material and lacing contact the frame. Once a month coat the entire frame with a metal protector made for anodized aluminum to protect against pitting and corrosion caused by the harsh effects of salt water. The anodized aluminum used on your Pursuit was coated with a metal protector called Alum Guard® in the factory. Alum Guard is a nonabrasive marine metal protector that protects anodized aluminum, stainless steel, brass, and chrome. It also protects color anodizing from fading and discoloring due to harmful ultraviolet rays. It is available from Rupp Marine Inc., 4761 Anchor Avenue, P.O. Drawer E, Fort Salerno, FL 34992.



ONE DRAWBACK TO ALUM GUARD AND OTHER METAL PROTECTORS IS THAT THEY CAN MAKE THE METAL SLIPPERY. THEREFORE, THEY SHOULD BE NOT BE USED ON TOWER LADDERS, STEERING WHEELS AND OTHER AREAS WHERE A GOOD GRIP AND SURE FOOTING IS IMPORTANT.

Stains can be removed with a metal polish or fine polishing compound. To minimize corrosion, use a caulking compound to bed hardware and fasteners mounted to aluminum fabrications. If the anodized coating is badly scratched it can be touched up with paint. With proper care, anodized aluminum will provide many years of service.

#### Chrome Hardware

Use a good chrome cleaner and polish on all chrome hardware.

#### Acrylic Plastic Glass

Acrylic glass scratches easily. Never use a dry cloth or glass cleaning solutions on acrylic. Use a soft cloth and mild soap and water for routine cleaning. Solvents and products containing ammonia can permanently damage acrylic plastic glass.

Fine scratches can be removed with a fine automotive clear coat polishing compound. A coat of automotive or boat wax is beneficial to protect the surface. Do not use the following on acrylic glass:

Abrasive cleaners	Acetone
Solvents	Alcohol
Glass cleaners	Cleaners containing ammonia

## 13.2 Upholstery, Canvas and Enclosures

### Vinyl Upholstery

The vinyl upholstery used on the exterior seats and bolsters in your boat should be cleaned periodically with soap and water. Avoid using products containing ammonia or harsh chemicals as they can shorten the life of vinyl. A vinyl protector will protect and extend the life of vinyl. One drawback to vinyl protectors is that they may make the vinyl slippery. You may find this to be undesirable in some applications.

### Canvas and Side Curtains

Acrylic canvas should be cleaned periodically by using a mild detergent and water. Scrub lightly and rinse thoroughly.

After several years, the acrylic canvas may lose some of its ability to shed water. If this occurs, wash the fabric and treat it with a commercially available water proofing designed for this purpose.

**Note:** Some leakage at the seams snaps and zippers is normal and unavoidable with acrylic or canvas enclosures.

Side curtains and clear connectors can be cleaned with mild soap and water. They should not be allowed to become heavily soiled. Dirt, oil, mildew, and cleaning agents containing ammonia, will shorten the life of the vinyl that is used for clear curtains. After cleaning the curtains and allowing them to dry, apply a non-lemon furniture polish or a plastic acrylic glass and clear plastic protector to extend the life of the curtains.

Vinyl curtains should be stored either rolled or flat, without folds or creases. Folding the curtains will make permanent creases that could cause the vinyl to crack.



**DO NOT USE ANY POLISH CONTAINING LEMON SCENTS OR LEMON. THE LEMON JUICE WILL ATTACK THE VINYL AND SHORTEN ITS LIFE.**

The bimini top, side curtains, clear connector, back drop and aft curtain must be removed when transporting the boat. Canvas enclosures are not designed to withstand the extreme wind pressure encountered while trailering and will be damaged. Always remove and properly store the enclosure before having your boat transported by truck.

Do not operate engines, fuel consuming heaters or burners with the canvas enclosures closed. The cockpit must be open for legal ventilation and to prevent the possible accumulation of carbon monoxide fumes, which could be lethal. Please refer to the Ventilation Systems and Safety Equipment chapters for more information on carbon monoxide detectors.



**CARBON MONOXIDE IS A LETHAL TOXIC GAS THAT IS COLORLESS AND ODORLESS. IT IS A DANGEROUS GAS THAT WILL CAUSE DEATH IN CERTAIN LEVELS.**

### 13.3 Cabin Interior

The cabin interior can be cleaned just like you would clean a home interior. To preserve the teak woodwork, use teak oil. To maintain the carpeting, use a vacuum cleaner. Because air and sunlight are very good cleaners, periodically put cushions, sleeping bags, etc. on deck, in the sun and fresh air, to dry and air out. If cushions or equipment get wet with saltwater, remove and use clean, fresh water to rinse off the salt crystals. Salt retains moisture and will cause damage. Dry thoroughly and reinstall.

The vinyl headliner material can be cleaned in mild soap and water. After cleaning, wipe with a clean towel and fresh water. Allow the material to dry and spray with a disinfectant.

If you leave the boat for a long period of time, put all cushions on their sides, open all interior cabin and locker doors, and hang a commercially available mildew protector in the cabin.



**ALWAYS READ THE LABEL CAREFULLY ON MILDEW PROTECTORS. REMOVE THE PROTECTOR AND ALLOW THE CABIN TO VENTILATE COMPLETELY BEFORE USING THE CABIN.**

### 13.4 Bilge and Engine Compartment

To keep the bilge clean and fresh, use a commercial bilge cleaner regularly. Follow the directions carefully. The engines and engine room should be kept clean and free of oil accumulation and debris. All exposed pumps and metal components, including the engine's and drive gear, should be sprayed periodically with a protector to reduce the corrosive effects of the high humidity always present in these areas.

Maintenance intervals are outlined in the engine owner's manuals. These recommendations should be followed exactly.

Periodically check the bilge pumps for proper operation and clean debris from the strainers and float switches. Inspect all hoses, clamps and thru hulls for leaks and tightness on a regular basis and operate all thru hull valves at least once a month to keep them operating properly.

A flow of air into the bilge is provided by vents located in the hull. Periodic inspection and cleaning of the ventilation ducts is necessary to ensure adequate air circulation.

### **Engines**

Proper engine maintenance is essential to the proper performance and reliability of your inboard engines. Maintenance schedules and procedures are outlined in your engine owner's manual. They should be followed exactly.

Proper engine operation requires a good supply of clean, dry fuel. Improper marina fuel storage techniques, limited bracing, etc. can cause the fuel to become contaminated. Periodically, it may be necessary to siphon accumulating water and contaminated fuel from the bottom of the fuel tanks.

Algae can grow in the accumulated water in diesel fuel tanks. This condition is more prevalent in warm climates. Periodically adding a high quality diesel fuel additive containing an algicide may be required to control algae in your boating area.

The age of gasoline can affect engine performance. Chemical changes occur as the gasoline ages that can cause deposits and varnish in the fuel system as well as reduce the octane rating of the fuel. Severely degraded fuels can damage the engine and boat fuel tank and lines. Therefore, if your boat is not being run enough to require at least one full tank of fresh fuel a month, a fuel stabilizer should be added in the gasoline to protect the fuel from degradation. Your dealer or the engine manufacturer can provide additional information on fuel degradation and fuel stabilizers recommended for your engine.

Avoid using fuels with alcohol additives. Gasoline that is an alcohol blend will absorb moisture from the air which can reach such concentrations that "phase separation" can occur whereby the water and alcohol mixture becomes heavy enough to settle out of the gasoline to the bottom of the tank. Since the fuel pick up tube is very near the bottom of the tank, phase separation can cause the engine to run very poorly or not at all. This condition is more severe with methyl alcohol and will worsen as the alcohol content increases. Wax or a jelly like substance in the fuel filters are an indication of possible phase separation from the use of alcohol blended fuels.

Please contact your Pursuit dealer or engine manufacturer for additional information regarding fuels and additives.

If the boat is raw water cooled and used in saltwater, flush the cooling system after each daily use. To flush the system when the boat is out of the water, follow the procedure outlined in your engine owner's manual.

### **Generator (Optional)**

The engine maintenance required on the generator is similar in many ways to the main engines. The engine incorporates a pressure-type lubrication system and a fresh water cooled engine block which is thermostatically controlled. The most important factors to the generator's longevity are proper ventilation and maintenance of the fuel system, ignition system, cooling system, lubrication system and the AC alternator.

Maintenance schedules and procedures are outlined in your generator owner's manual. They should be followed exactly.

## 13.5 Drainage System

It is essential that the following items be done periodically to maintain proper drainage of your boat:

- Clean the cockpit drains with a hose to remove debris that can block water drainage.
- Clean the hatchtop, tower or rub rail arching drain holes. This is especially important just before winter lay-up.
- Frequently test the automatic bilge pump switches for proper operation.
- Flush all gravity drains with freshwater to keep them clean and free flowing.
- Operate the thru hull valves once a month and service as required.

**Note:** All drains and pumps must be properly winterized before winter lay-up.



NEVER USE HARSH CHEMICAL DRAIN CLEANERS IN MARINE DRAIN SYSTEMS. PERMANENT DAMAGE TO THE HOSES AND FITTINGS MAY RESULT.

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## *Chapter 14:* **SEASONAL MAINTENANCE**

### **14.1 Lay-up and Storage**

#### **Before Hauling:**

- Pump out the boat, flush the holding tank using clean water and a deodorizer. Pump out the cleaning solution.
- The fuel tank should be left nearly full to reduce condensation that can accumulate in the fuel tank. Allow enough room in the tank for the fuel to expand without leaking out the vents. Moisture from condensation in the fuel tank can reach such concentrations that it becomes heavy enough to settle out of the gasoline to the bottom of the tank. Since fuel pickup tubes are located near the bottoms of the tank, this accumulated moisture can cause the engine to run poorly or not at all after extended storage.

Algae can grow in the accumulated water in diesel fuel tanks. This condition is most prevalent in warm climates. Adding a high quality diesel fuel additive containing an algicide may be required to control algae during storage in your area.

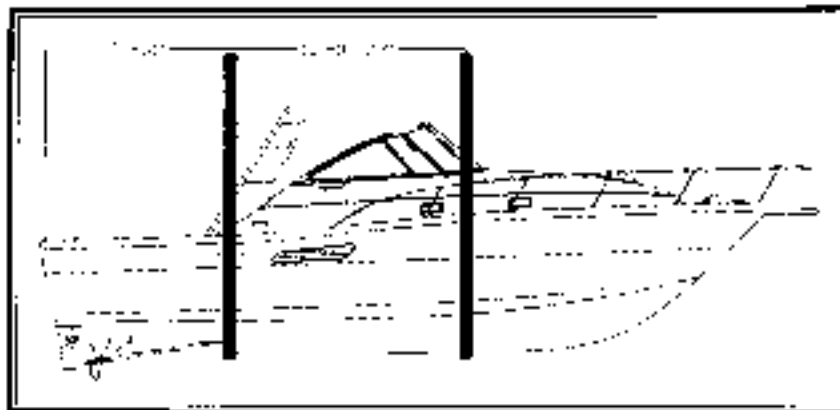
Chemical changes also occur as the gasoline ages that can cause deposits and varnish in the fuel system as well as reduce the octane rating of the fuel. Severely degraded fuel can damage the engine and boat fuel tank and lines.

Therefore, if your boat is not being run enough to require at least one full tank of fresh fuel a month or during winter storage, a fuel stabilizer should be added to the gasoline to help protect the fuel system from these problems. Operate the boat for at least 15 minutes after adding the stabilizer to allow the treated fuel to reach the engine.

Your dealer or the engine manufacturer can provide additional information on fuel degradation and fuel stabilizers recommended for your engine. For more recommendations for your specific area, check with your local Pursuit Dealer.

- Drain water from the fresh water system.
- Consult the engine owner's manual for detailed information on preparing the engine for storage.

## Lifting



Sling positions

It is essential that care be used when lifting your boat. Make sure the spreader bar at each sling is at least as long as the distance across the widest point of the boat that the sling will surround. Put the slings in position. Refer to the drawing above for the correct position of the lifting slings. The fore and aft slings should be tied together to prevent the slings from sliding on the hull.

The bow should be slightly higher than the stern when lifting the boat. This will allow the water to drain from the engine exhaust system and prevent water from surging over the risers and into the engine.



BOATS HAVE BEEN DAMAGED FROM IMPROPER LIFTING AND TRANSPORTING WITH FORK LIFTS. CARE AND CAUTION MUST BE EXERCISED WHEN TRANSPORTING A BOAT WITH A FORK LIFT. NEVER HOIST THE BOAT WITH A SUBSTANTIAL AMOUNT OF WATER IN THE HULL.



SEVERE GELCOAT CRAZING OR MORE SERIOUS HULL DAMAGE CAN OCCUR DURING HAULING AND LAUNCHING IF PRESSURE IS CREATED ON THE GUNWALES (SHEER) BY THE SLINGS. SPREADERS ARE NOT REQUIRED IF BELTS ARE NOT CREATING PRESSURE (CABLE DRUMS FURTHER APART THAN BEAM OF BOAT). FLAT, WIDE BELTING SLINGS AND SPREADERS LONG ENOUGH TO KEEP PRESSURE FROM THE GUNWALES ARE ESSENTIAL. DO NOT ALLOW ANYONE TO HAUL YOUR BOAT WHEN THE SPREADERS ON THE LIFT ARE NOT WIDE ENOUGH TO TAKE THE PRESSURE OFF THE GUNWALES.



#### **Supporting The Boat For Storage**

A trailer or a well-made cradle is the best support for your boat during storage.

#### **When storing the boat on a trailer for a long period:**

- Make sure the rollers and pads support the hull of the boat.
- Make sure the trailer is on a level surface and the bow is high enough so that water will drain from the bilge, cockpit and exhaust system.
- The trailer must properly support the hull. The bunks and rollers should touch the bottom of the hull and should not be putting pressure on the lifting strakes.
- Make sure the hitch is properly supported.
- Check the tires at least once each season. Add enough air for the correct amount of inflation for the tires.

**Note:** Read the owner's manual for the trailer for the correct amount of inflation for the tires.

#### **When storing the boat on a cradle:**

- The cradle must be specifically for boat storage.
- Make sure the cradle is well supported and placed on a level surface with the bow high enough so that water will drain from the bilge, cockpit and exhaust system.
- The cradle must be in the proper fore and aft position to properly support the hull. When the cradle is in the correct location, the bunks should touch the bottom of the hull and should not be putting pressure on the lifting strakes.



**BOATS HAVE BEEN DAMAGED BY TRAILERS AND CRADLES THAT DON'T PROPERLY SUPPORT THE HULL. ALWAYS MAKE SURE THE BUNKS AND PADS ARE ADJUSTED SO THEY ARE NOT PUTTING PRESSURE ON THE LIFTING STRAKES AND ARE PROVIDING ENOUGH SUPPORT FOR THE HULL. HULL DAMAGE RESULTING FROM IMPROPER CRADLE AND TRAILER SUPPORT IS NOT COVERED BY THE PURSUIT WARRANTY.**

#### **Preserving The Boat For Storage**

- Remove the bilge drain plug(s), if installed.
- Thoroughly wash the fiberglass exterior, especially the antifouling portion of the bottom. Remove as much marine growth as possible. Lightly wax the exterior fiberglass components.

- Remove all oxidation from the exterior hardware, and apply a light film of moisture displacing lubricant.
- Remove propellers and grease the propeller shafts using light waterproof grease.
- Remove the batteries and store in a cool place. Clean using clear, clean water. Be sure the batteries have sufficient water and clean terminals. Keep the batteries charged and safe from freezing throughout the storage period.

**Note:** Refer to the Electrical System chapter, for information on the maintenance of the AC and DC electrical systems.

- Coat all faucets and exposed electrical components in the cabin and cockpit with a protecting oil.
- Clean out, totally drain and completely dry the fishboxes, tanks and livewells.
- Thoroughly clean the interior of the boat. Vacuum all carpets and dry clean drapes and upholstery.
- Remove cushions, open the refrigerator door and as many locker doors as possible. Leaving as many of these areas open as possible will improve the boat's ventilation during the storage period.

**Note:** It is recommended that a mildew preventer be hung in the boat's cabin before it is closed for storage.

- Clean the exterior upholstery with a good vinyl cleaner and dry thoroughly. Spray the weather covers and boat upholstery with a spray disinfectant. Enclosed areas such as the refrigerator, shower basin, storage locker areas, etc. also should be sprayed with this disinfectant.

## 14.2 Winterizing

### **Freshwater System**

The entire freshwater system must be completely drained. Disconnect all hoses, check valves, etc. and blow all the water from the system. Make sure the water heater and freshwater tank are completely drained. Use only very low air pressure when doing this to prevent possible system damage. Because of the check valve mechanism built in the pump, blowing the lines will not remove the water from the freshwater pump. Remove the inlet and outlet hoses on the pump. Turn the pump on and allow it to pump out any remaining water...about a cupful. A recommended alternative to the above-mentioned procedure is the use of commercially available non-toxic, freshwater system antifreeze. After draining the potable water tank, lines and water heater, pour the antifreeze mixture into the freshwater tank, prime and operate the pump until the mixture flows

from all freshwater faucets. Be sure to open hot and cold water faucets, including the freshwater shower in the cockpit and the faucet in the entertainment center. Make sure antifreeze has flowed through all of the freshwater drains.

The shower/cabin drain sump system must be properly winterized. Clean debris from the drain and sump and flush for several minutes with fresh clean water. After the system is clean, pump the drain sump as dry as possible. Then pour a potable water antifreeze mixture into the shower drain until antifreeze has been pumped through the entire system and out of the thru hull.

For additional information on the refer to the Fresh Water System chapter.

#### **Raw Water System**

Completely drain the raw water systems. Disconnect all hoses and blow the water from the system. Use only very low air pressure when doing this to prevent possible system damage. Because of the check valve mechanism built in the raw water washdown and livewell pumps, blowing the lines will not remove the water from that raw water pump. Remove the outlet hose on the pump. Turn the pump on and allow it to pump out any remaining water...about a cupful. A recommended alternative to the above mentioned procedure is the use of commercially available non-toxic, potable water system antifreeze. If potable water antifreeze is used, pour the mixture into a pail and put the raw water intake lines into the solution. Run the pumps one at a time until the antifreeze solution is visible at all raw water faucets, discharge fittings and drains. Be sure antifreeze has flowed through all of the raw water drains.

#### **Engine and Generator Raw Water Systems**

Drain all of the sea strainers, heat exchangers and raw water supply and discharge lines for the engine and optional generator raw water supply pumps. Make sure all sea water has drained from the exhaust system. Some, but not all, engine mufflers could have a drain plug that must be removed to properly drain the muffler. Once this is accomplished, pour a non-toxic marine engine antifreeze mixture into a large pail and put the engine raw water intake lines into the solution. Run the engines one at a time until the antifreeze solution is visible at the raw water exhaust port, then shut the engine off.

Properly winterize the engines and fuel system by following the engine manufacturer's winterizing procedures located in your engine owner's manuals or contact a Pursuit dealer. Refer to the Raw Water System chapter for additional information on the raw water system.

#### **Marine Toilet**

The marine toilet must be properly winterized by following the manufacturer's winterizing instructions in the marine toilet owner's manual. Drain the intake and discharge hoses completely using low air pressure if necessary. The head holding tank and macerator discharge pump must be pumped dry and one gallon of potable water antifreeze poured into the tank through the deck waste pump out fitting. After the antifreeze has been added to the holding tank, open the overboard discharge valve and activate the macerator pump until the antifreeze solution is visible at the discharge thru hull.

**Note:** Make sure you follow the marine toilet manufacturer's winterizing instructions exactly.

#### **Air Conditioner**

Disconnect and drain the air conditioner intake and discharge hoses. Remove all water from the sea strainer and thru hull fitting. Allow all water to drain from the system. The air conditioner components must be properly winterized by following winterizing procedure in the air conditioner owner's manual.

**Note:** The air conditioning, engine control system, head, and steering systems have specific lay up requirements. Please refer to their owner's manuals for recommended winterizing procedures.

#### **Bilge**

Coat all metal components, wire hoses, and connector plugs in the bilge with a protecting oil. It is also important to protect all strainers, seacocks and steering components. The bilge pumps and bilge pump lines must be completely free of water and dried out when the boat is laid up for the winter in climates where freezing occurs. Components in the bilge that will not drain completely should be pumped out and then spiced until completely free of water. Dry the hull bilge and self-bailing cockpit troughs. Water freezing in these areas could cause damage.

#### **Hardtop and Radar Arch**

It is imperative that all drain holes in the legs are open and that the legs are completely free of water. Remove the canvas and thoroughly clean and store in a safe, dry place. Remove all electronics. Coat all wire connectors and bus bars in the helm compartment with a protecting oil.

Clean the aluminum frame with soap and water and dry thoroughly. Apply an aluminum metal protector to the entire frame to reduce corrosion and pitting.



**ALWAYS MAKE SURE THE LEG DRAIN HOLES ARE CLEAR WHEN THE BOAT IS LAID UP FOR THE WINTER. WATER TRAPPED INSIDE THE HARDTOP OR RADAR ARCH LEGS COULD FREEZE AND CAUSE THE LEGS TO SPLIT.**

#### **Tower (if installed)**

It is imperative that all drain holes in the tower and hardtop legs are open and completely free of water. Tower basket drains should be checked and clear of debris. Remove the tower sun shade, if installed, and belly band or removable cushions and thoroughly clean and store in a safe, dry place. Remove all electronics. Coat all wire connectors and bus bars in the helm compartment with a protecting oil. Cover the tower basket with a tarp and secure it properly.

Clean the aluminum frame with soap and water and dry thoroughly. Apply an aluminum metal protector to the entire frame to reduce corrosion and pitting.

#### **Special Notes Prior To Winter Storage**

If the boat will be in outside storage, properly support a storage cover and secure it over the boat. It is best to have a frame built over the boat to support the canvas. It should be a few inches wider than the boat so the canvas will clear the rails and allow passage of air. If this cover is fastened too tightly there will be inadequate ventilation and this can lead to mildew, moisture accumulation, etc. It is essential to fasten the canvas down securely so that the wind cannot remove it or cause chafing of the hull superstructure. Do not store the boat in a damp storage enclosure. Excessive dampness can cause electrical problems, corrosion, and excessive mildew.

Whenever possible, do not use the bimini top or convertible top canvas in place of the winter storage cover. The life of these canvases may be significantly shortened if exposed to harsh weather elements for long periods.



**PLACING AN ELECTRIC OR FUEL BURNING HEATING UNIT IN THE HULL AREA CAN BE POTENTIALLY HAZARDOUS AND IS NOT RECOMMENDED.**

Proper storage is very important to prevent serious damage to the boat. If the boat is to be stored indoors, make sure the building has enough ventilation. It is very important that there is enough ventilation both inside the boat and around the boat.

**Note:** If the boat is to be stored indoors or outdoors, open all drawers, clothes lockers, cabinets, and doors a little. If possible, remove the upholstery, mattresses, clothing, and rugs. Then hang a commercially available mildew protector in the cabin.

### **14.3 Recommissioning**



**DO NOT OPERATE THE BOAT UNLESS IT IS COMPLETELY ASSEMBLED. KEEP ALL FASTENERS TIGHT. KEEP ADJUSTMENTS ACCORDING TO SPECIFICATIONS.**

**Note:** It is important and recommended that the fitting out procedure for the marine gear be done by a qualified service person. Read the engine owner's manual for the recommended procedure.



**BEFORE LAUNCHING THE BOAT, MAKE SURE THE HULL DRAIN PLUG IS INSTALLED.**



MAKE SURE THE MUFFLERS HAVE NOT BEEN DAMAGED DURING WINTER STORAGE AND THAT THE DRAIN PLUGS ARE INSTALLED AND PROPERLY TIGHTENED. LOOSE OR MISSING DRAIN PLUGS AND DAMAGED OR LEAKING MUFFLERS OR EXHAUST HOSES WILL ALLOW CARBON MONOXIDE, ENGINE GASES, AND WATER INTO THE BILGE CREATING A POTENTIALLY HAZARDOUS CONDITION.

**Note:** Not all mufflers are equipped with drain plugs.

#### **Reactivating The Boat After Storage:**

- Charge and install the batteries.
- Install the drain plug in the hull.
- Check the engines for damage and follow the manufacturer's instructions for recommissioning.
- Check the engine mounting bolts to make sure they are tight.
- Perform all routine maintenance.
- Check all hose clamps for tightness.
- Pump the anti-freeze from the fresh and raw water systems and flush several times with fresh water. Make sure all anti-freeze is flushed from the water heater and it is filled with fresh water before it is activated.
- Check and lubricate the steering system.
- Clean and wash the boat.
- Install all upholstery, cushions and canvas.

#### **After Launching:**

- Carefully check the engines and all water systems for leaks. Operate each system one at a time checking for leaks and proper operation.
- Check the bilge pump manual and automatic switches.
- Check the propeller shaft couplings for proper alignment. Allow the boat to remain in the water for several hours before checking the alignment.
- Prime the fuel system and start the engines. When each engine starts, check the exhaust ports for water flow. This insures that the cooling pump is operating.

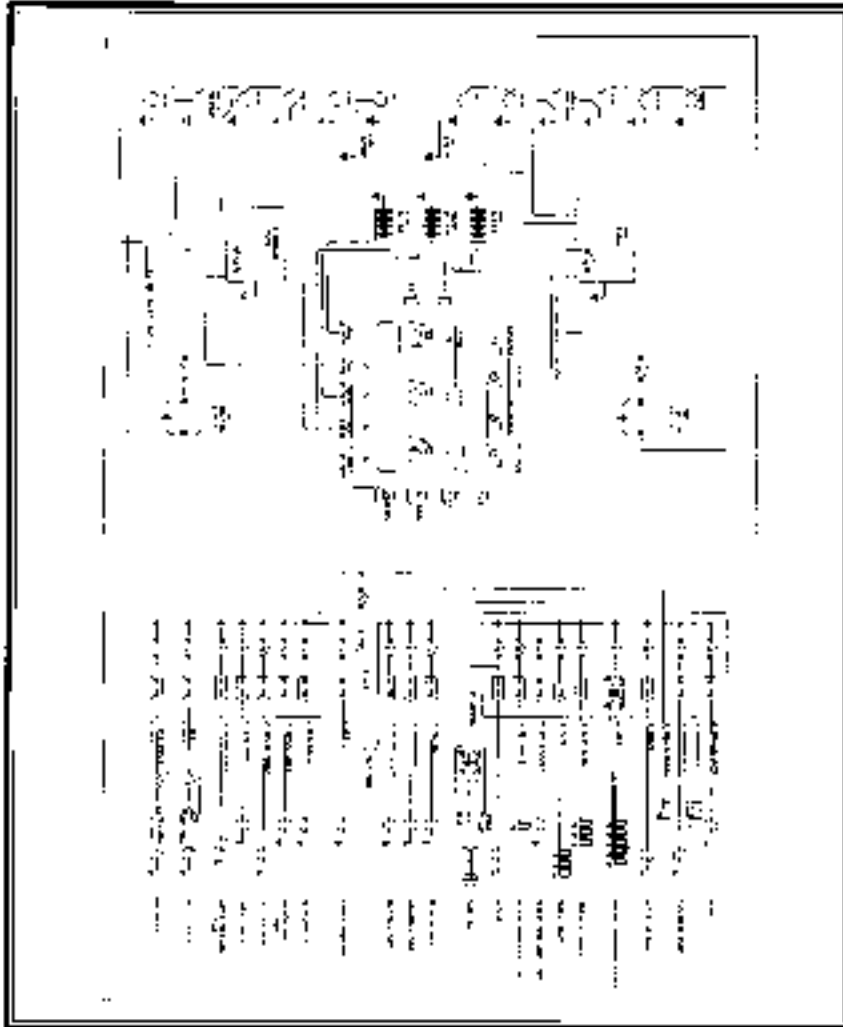
- Carefully monitor the gauges and check for leakage and abnormal noises.
- Operate the boat at slow speeds until the engine temperature stabilizes and all systems are operating normally.

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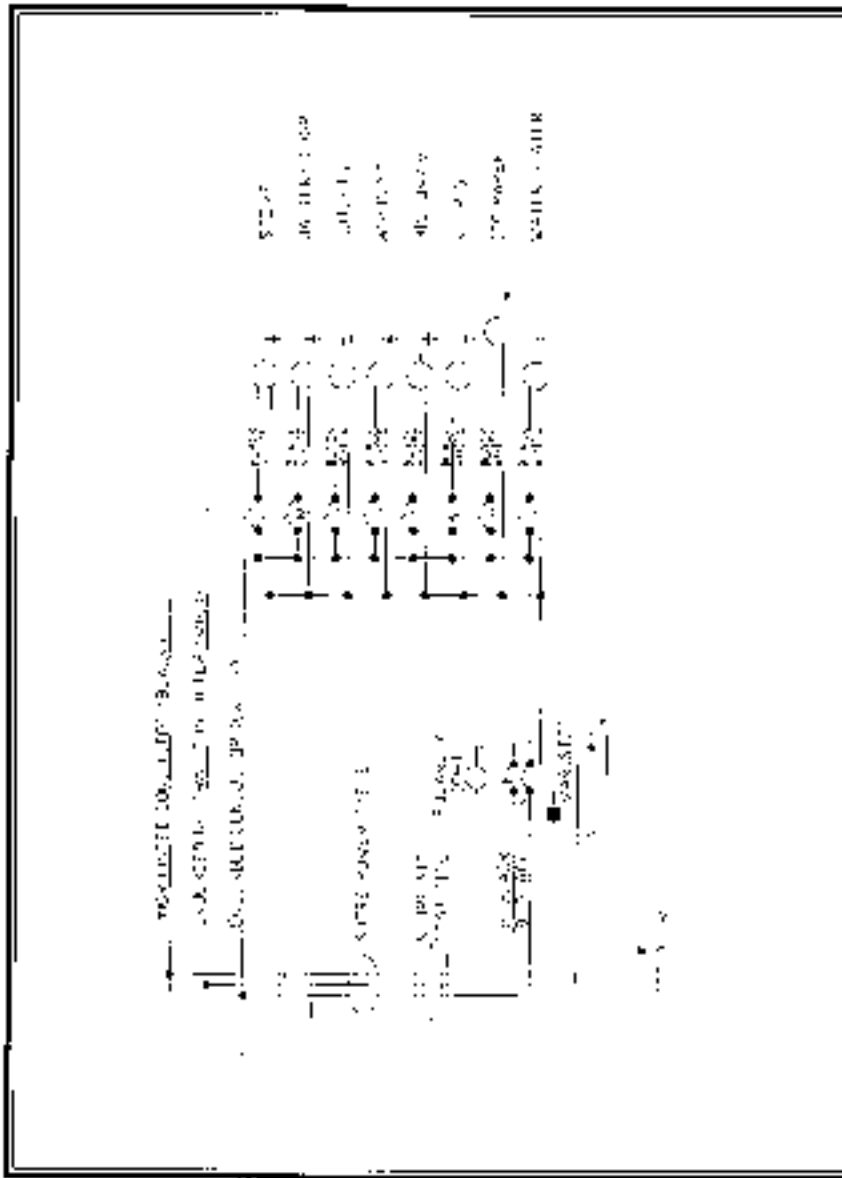
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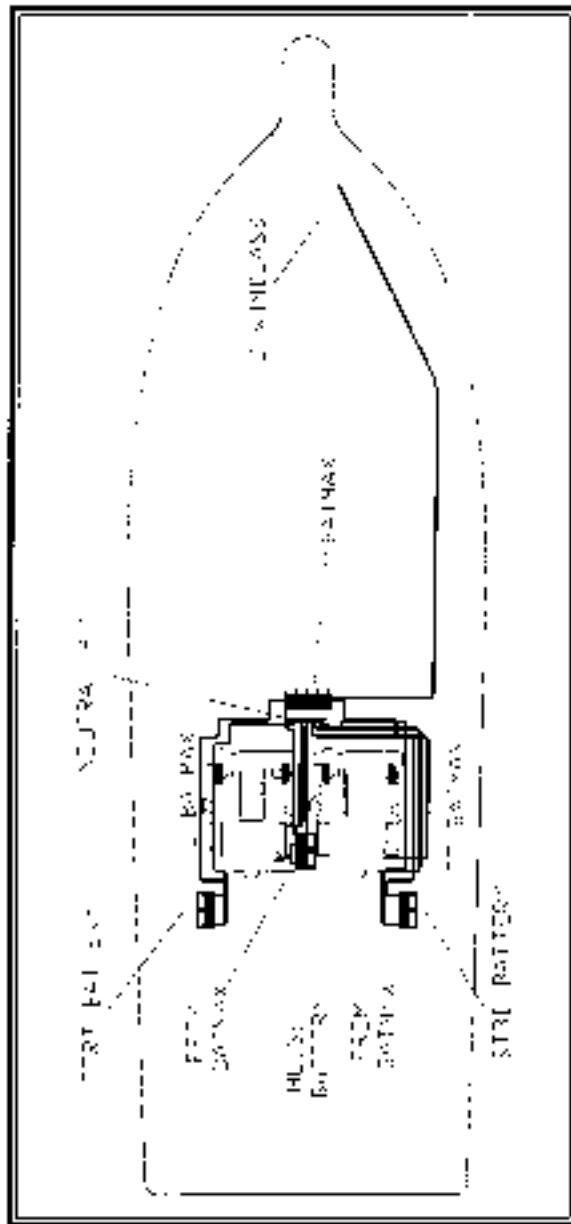
12-100 DC MOTOR SCHEMATIC



**SCHEMATICS**  
*Chapter 15:*

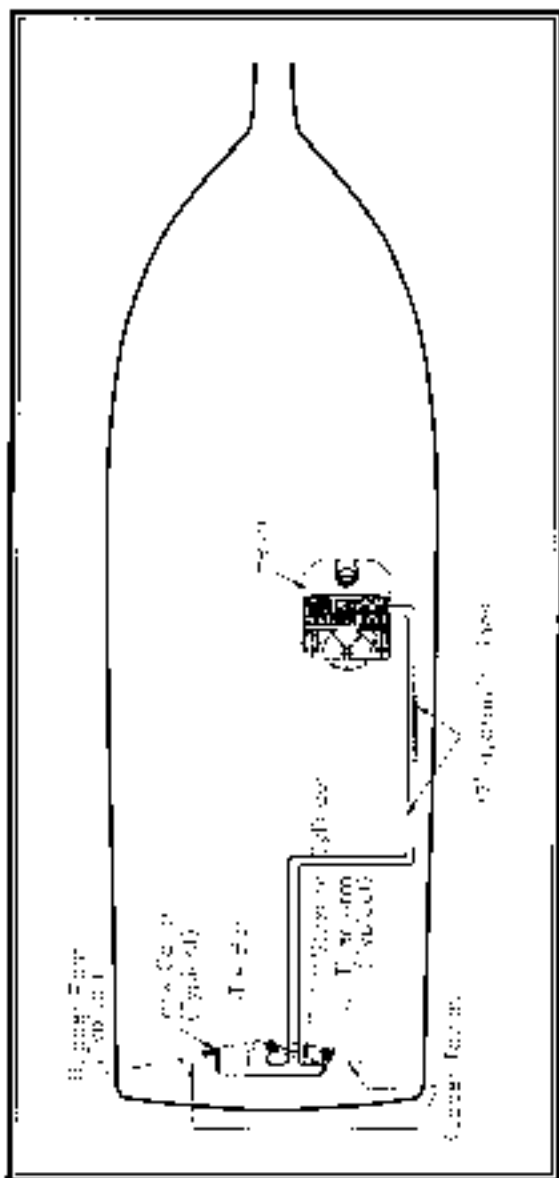


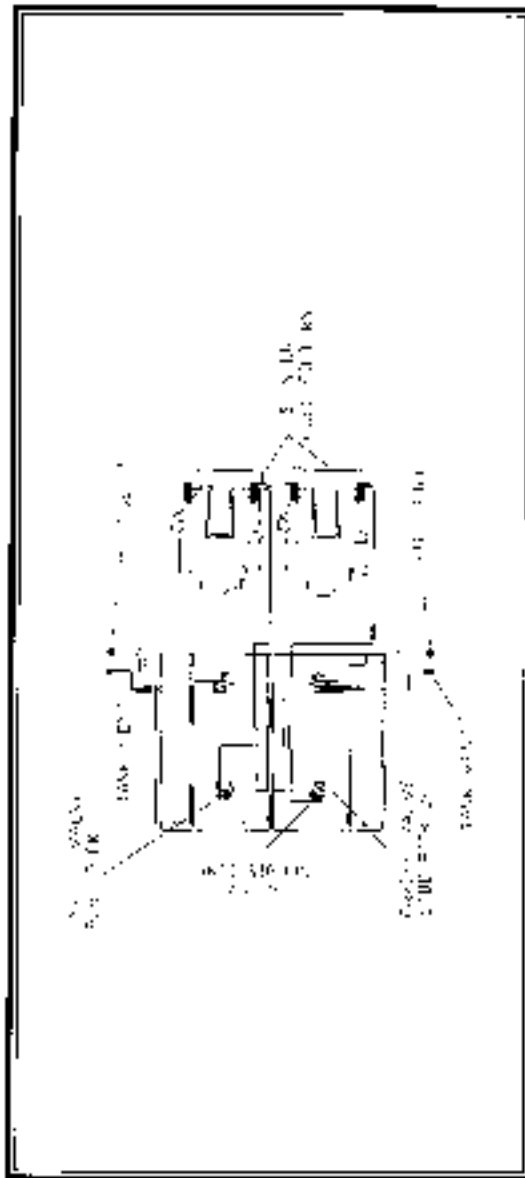
110-Pin Wiring Scheme



Battery Cable Schematics

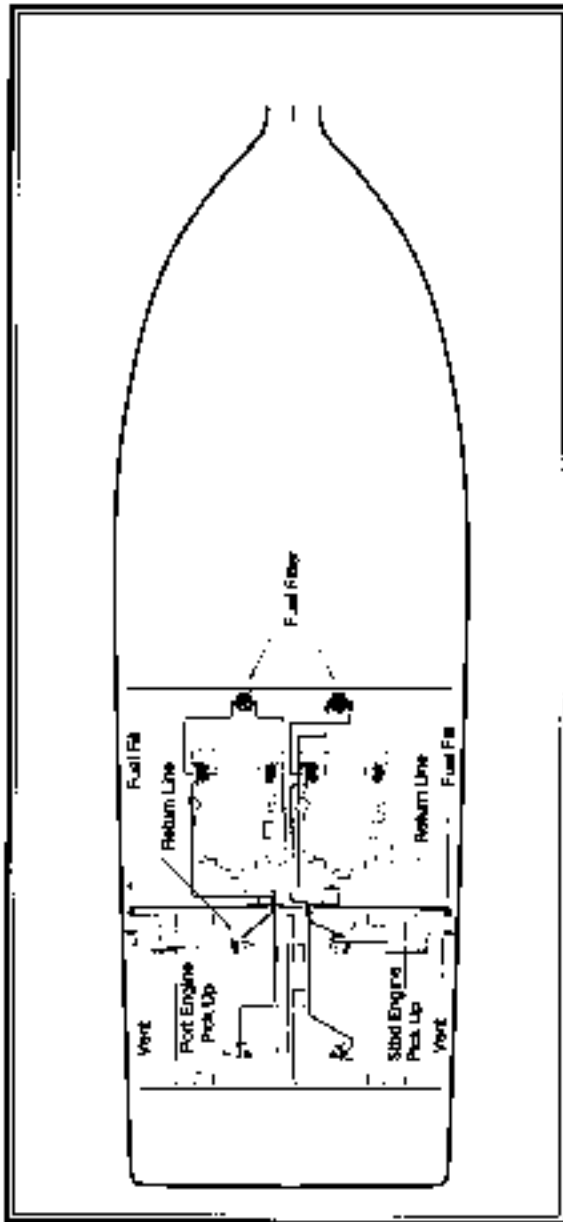
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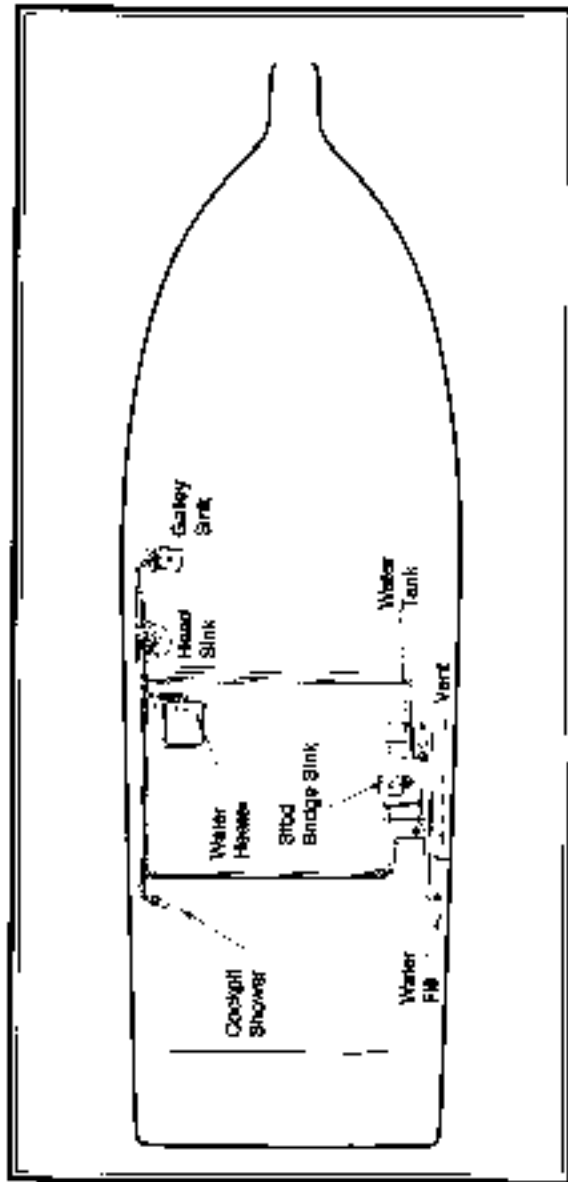
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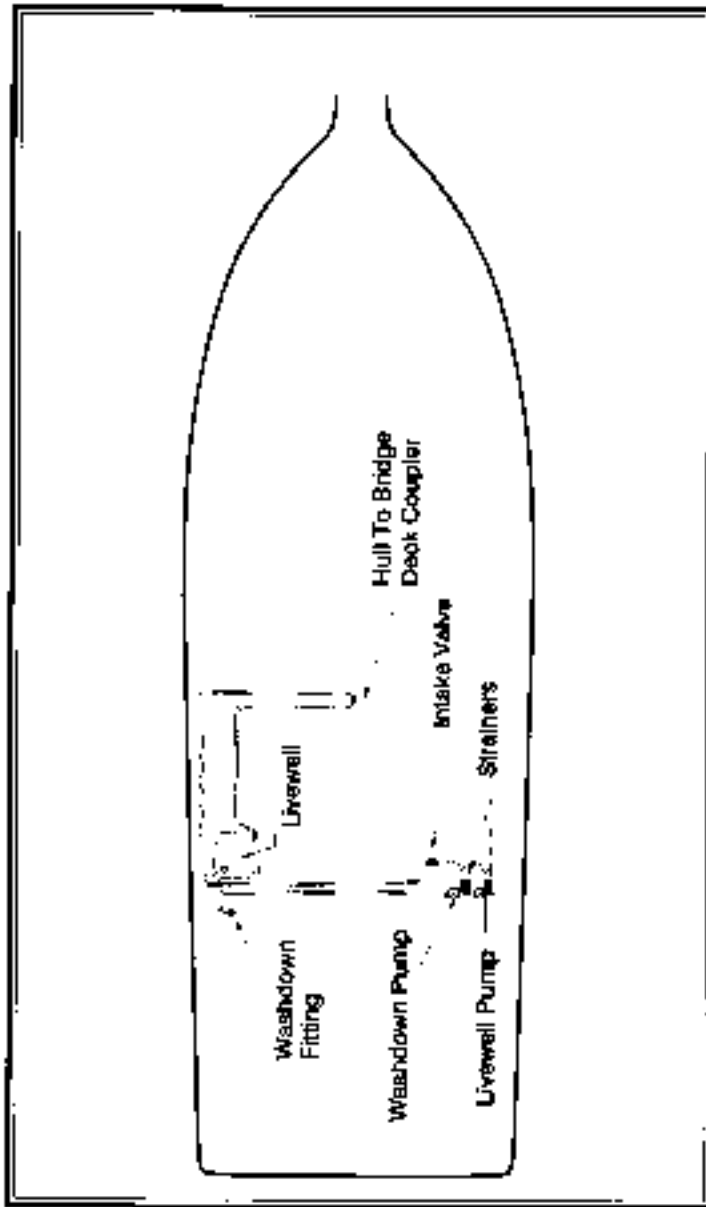
Starboard Fuel System

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Fresh Water System

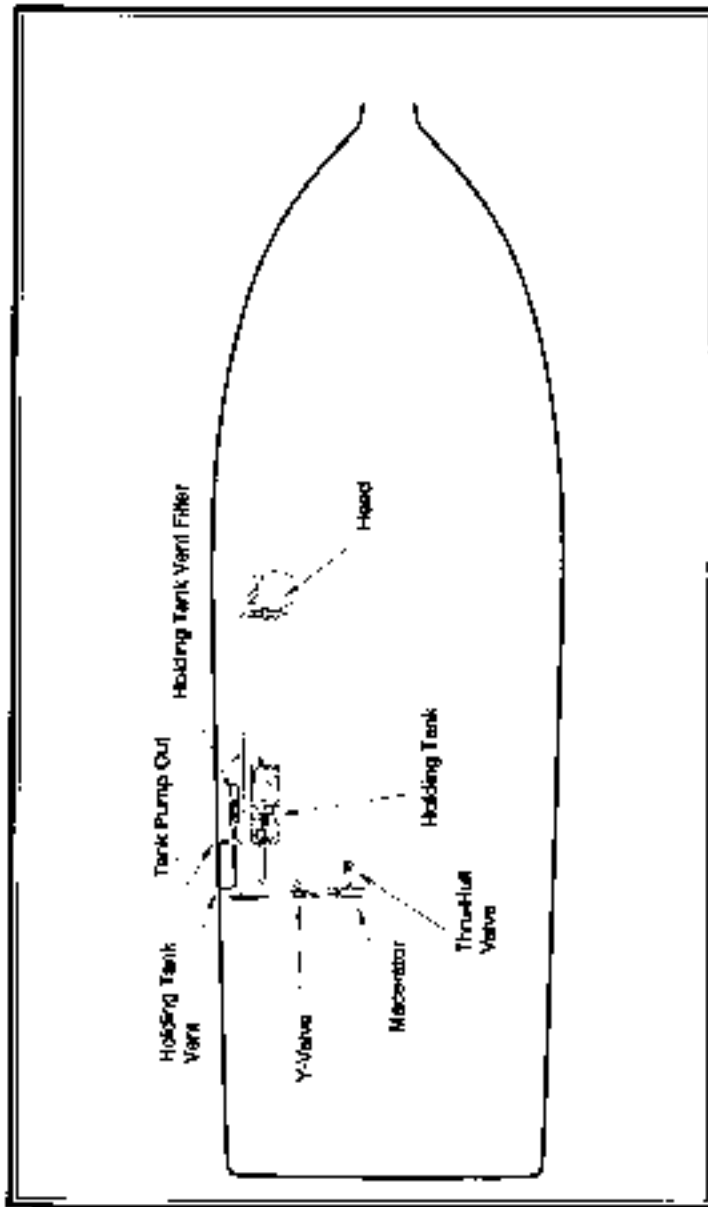


Bridge Deck Water System

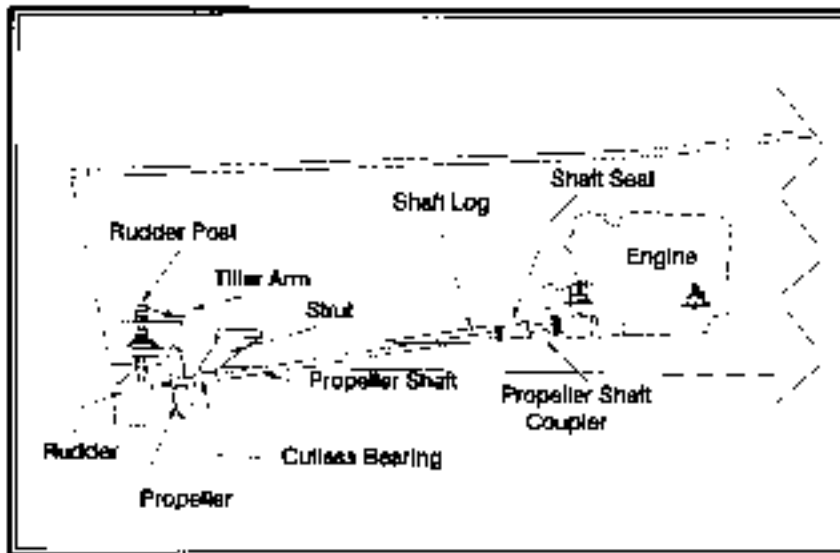
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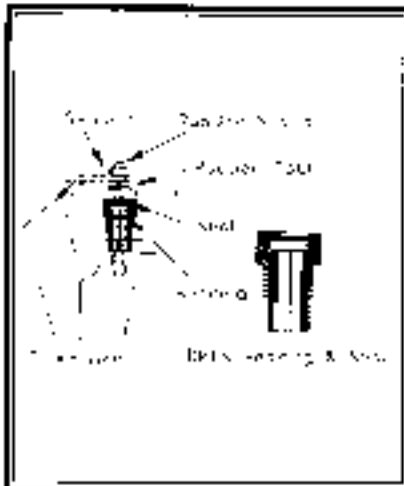




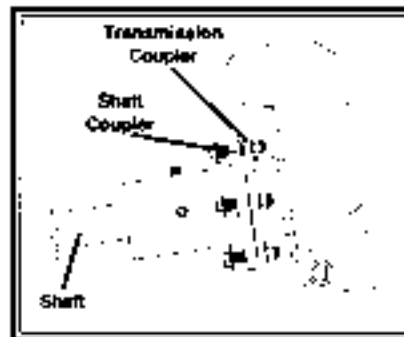
Fuel/Water System



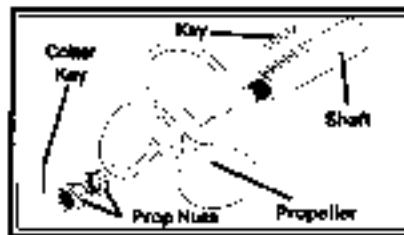
Running Gear



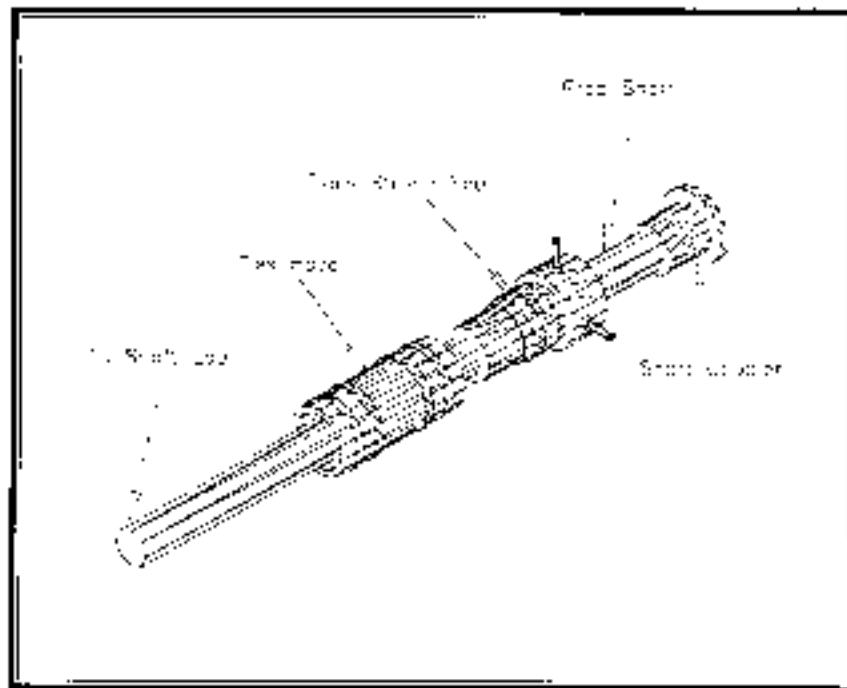
Rudder Assembly



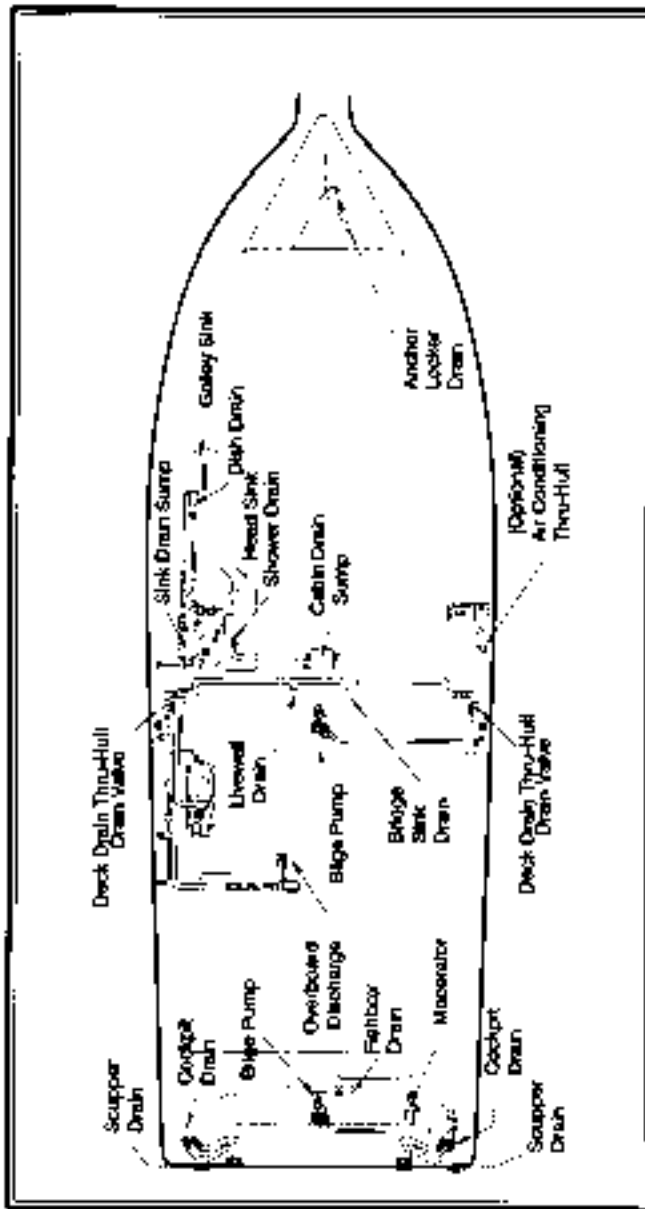
Coupler Assembly



Prop Assembly

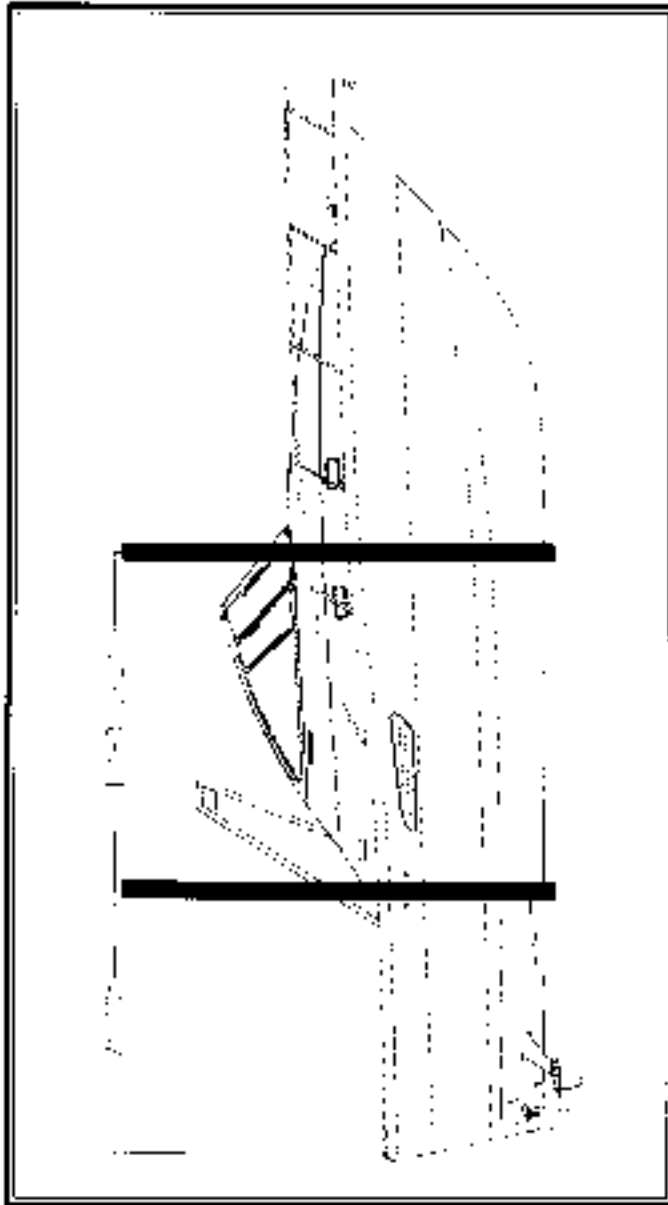


Shaft and Propeller Assembly



Bilge System

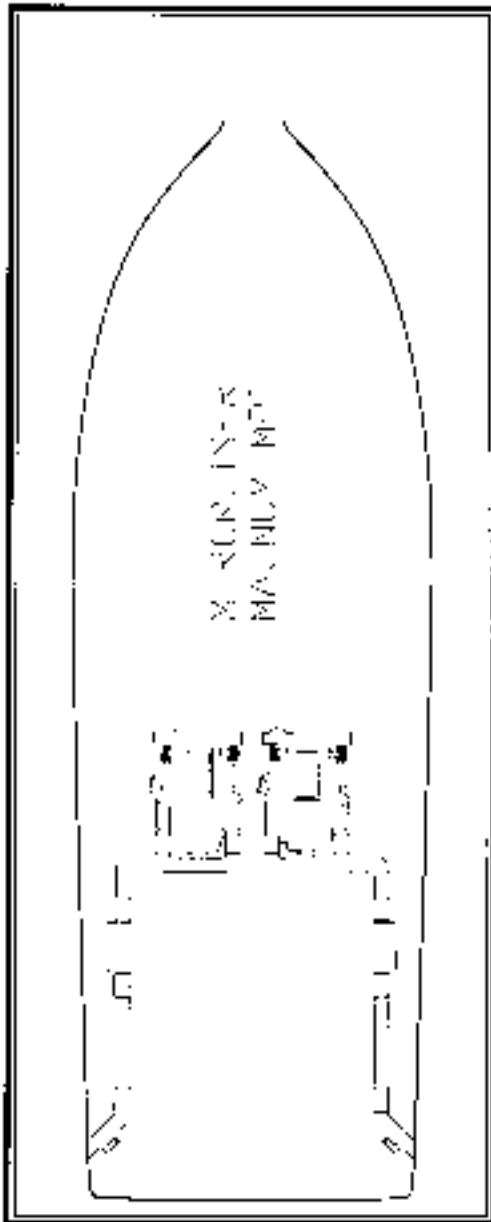




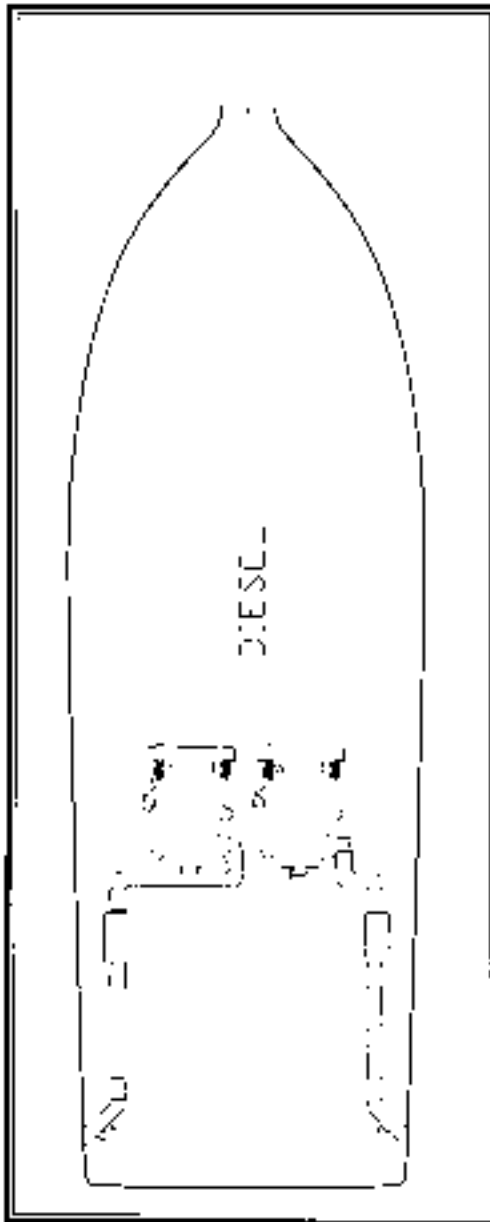
Jump Tables

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Diesel Exhaust System

15-16

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## APPENDIX A: GLOSSARY OF TERMS

**Aft:** In, near, or toward the stern of a boat.

**Aground:** A boat struck on the bottom.

**Amidship:** In or toward the part of a boat midway between the bow and stern.

**Anchor:** A specially shaped heavy metal device designed to dig efficiently into the bottom under a body of water and hold a boat in place.

**Anchorage:** An area specifically designated by governmental authorities in which boats may anchor.

**Ashore:** On shore.

**Astern:** Behind the boat. to move backwards.

**Athwartship:** At right angles to the center line of the boat.

**Barnacles:** Small, hard-shelled marine animals which are found in salt water attached to pilings, decks and bottoms of boats.

**Beam:** The breadth of a boat usually measured at its widest part.

**Bearing:** The direction of an object from the boat, either relative to the boat's direction or in compass degrees.

**Berth:** A bunk or a bed on a boat.

**Bilge:** The bottom of the boat below the flooring.

**Bilge Pump:** A pump that removes water that collects in the bilge.

**Boarding:** Entering or climbing into a boat.

**Boarding Ladder:** Set of steps temporarily fitted over the side of a boat to assist persons coming aboard.

**Boat Hook:** Short shaft of wood or metal with a hook fitting at one end shaped to aid in extending one's reach from the side of the boat.

**Bow:** The front end of a boat's hull.

**Bow Line:** A line that leads forward from the bow of the boat.

**Bow Rail:** Knee high rails of solid tubing to aid in preventing people from falling overboard.

**Bridge:** The area from which a boat is steered and controlled.

**Bridge Deck:** A deck forward and usually above the cockpit deck.

**Broach:** When the boat is sideways to the seas and in danger of capsizing; a very dangerous situation that should be avoided.

**Bulkhead:** Vertical partition or wall separating compartments of a boat.

**Cabin:** Enclosed superstructure above the main deck level.

**Capsize:** When a boat lays on its side or turns over.

**Check:** A deck fitting, usually of metal, with upward curving arms through which mooring or anchor lines are passed so as to lead them in the proper direction both on board and off the boat.

**Cleat:** A deck fitting, usually of metal with projecting arms used for securing anchor and mooring lines.

**Closed Cooling System:** A separate supply of fresh water that is used to cool the engine and circulates only within the engine.

**Cramming:** A vertical piece around the edges of cockpit, hatches, etc. to stop water on deck from running below.

**Cockpit:** An open space, usually in the aft deck, outside of the cabin.

**Companionway:** Opening in the deck of a boat to provide access below.

**Compartment:** The interior of a boat divided off by bulkheads.

**Cradle:** A framework designed to support a boat as she is hauled out or stored.

**Cutlass Bearing:** A rubber bearing in the strut that supports the propeller shaft.

**Deck:** The floor-like platform of a boat that covers the hull.

**Displacement:** The volume of water displaced by the hull. The displacement weight is the weight of this volume of water.

**Draft:** The depth of water a boat needs to float.

**Dry Rot:** A fungus attack on wood areas.

**Dry-dock:** A dock that can be pumped dry during boat construction or repair.

**Electrical Ground:** A connection between an electrical connector and the earth.

**Engine Beds:** Sturdy structural members running fore and aft on which the outboard engines are mounted.

**EPIRB:** Emergency Position Indicating Radio Beacon. Operates as a part of a worldwide satellite distress system.

**Even Keel:** When a boat floats properly as designed.

**Fathom:** A measure of depth. One Fathom = 6 feet.

**Fender:** A soft object of rubber or plastic used to protect the topsides from scarring and rubbing against a dock or another vessel.

**Feed off:** To push or hold the boat off from the dock or another boat.

**Flying Bridge:** A control station above the level of the deck or cabin.

**Flukes:** The broad portions of an anchor which dig into the ground.

**Fore:** Applies to the forward portions of a boat near the bow.

**Foundering:** When a boat fills with water and sinks.

**Freeboard:** The height from the waterline to the lowest part of the deck.

**Galley:** The kitchen of a boat.

**Grab Rail:** Hand-hold fittings mounted on cabin tops or sides for personal safety when moving around the boat, both on deck and below.

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**Ground Tackle:** A general term including anchors, lines, and other gear used in anchoring.

**Grounds:** A boat touches the bottom.

**Gunwale:** The upper edge of a boat's side.

**Hand Rail:** Rail mounted on the boat, for grabbing with your hand, to steady you while walking about the boat.

**Harbor:** An anchorage which provides reasonably good protection for a boat, with shelter from wind and sea.

**Hatch:** An opening in the deck with a door or lid to allow for access down into a compartment of a boat.

**Head:** A toilet on a boat.

**Heat Exchanger:** Used to transfer the heat that is picked up by the closed cooling system to the raw cooling water.

**Helms:** The steering and control area of a boat.

**Hull:** The part of the boat from the deck down.

**Inboard:** A boat with the engine mounted within the hull of the boat. Also refers to the center of the boat away from the sides.

**Inboard/outboard:** Also stern drive or I/O. A boat with an inboard engine attached to an outboard drive unit.

**Keel:** A plate or timber plate running lengthwise along the center of the bottom of a boat.

**Knot:** Unit of speed indicating nautical miles per hour. 1 knot = 1 nautical mile per hour (1.15 miles per hour). A nautical mile is equal to one minute of latitude: 6076 feet. Knots times 1.15 equals miles per hour. Miles per hour times .87 equals knots.

**Lay-up:** To decommission a boat for the winter (usually in northern climates).

**Leeward:** The direction toward which the wind is blowing.

**Length On The Waterline (L.W.L.):** A length measurement of a boat at the waterline from the stem to where the hull breaks the water near the bow.

**Lumber Hole:** A passage cut into the lower edges of floors and frames next to the keel to allow bilge water to flow to the lowest point of the hull where it can be pumped overboard.

**Line:** The term used to describe a rope when it is on a boat.

**Lists:** A boat that inclines to port or starboard while afloat.

**L.O.A.:** Boat length overall.

**Locker:** A closet, chest or box aboard a boat.

**Loran:** An electronic navigational instrument which monitors the boat's position using signals emitted from pairs of transmitting stations.

**Lunchhook:** A small light weight anchor typically used instead of the working anchor. Normally used in calm waters with the bow oriented.

**Midships:** The center of the boat.

**Marina:** A protected facility primarily for recreational small craft.

**Marine Ways or Railways:** Inclined planes at the water's edge onto which boats are hauled.

**Moored:** A boat secured with cables, lines or anchors.

**Mooring:** An anchor permanently embedded in the bottom of a harbor that is used to secure a boat.

**Nautical Mile:** A unit of measure equal to one minute of latitude. (6076 feet)

**Nun Buoy:** A red or red-striped buoy of conical shape.

**Outboard:** A boat designed for an engine to be mounted on the stern. A term also that refers to objects away from the center line or beyond the hull sides of a boat.

**Pad Eye:** A deck fitting consisting of a metal eye permanently secured to the boat.

**Pier:** A structure which projects out from the shoreline.

**Pile or Piling:** A long column driven into the bottom to which a boat can be tied.

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**Pitching:** The fore and aft rocking motion of a boat as the bow rises and falls.

**Pitch:** The measure of the angle of a propeller blade. Refers to the theoretical distance the boat travels with each revolution of the propeller.

**P.F.D.:** Personal Flotation Device.

**Port:** The left side of the boat when facing the bow.

**Porthole (port):** The opening in the side of a boat to allow the admittance of light and air.

**Propeller:** A device having two or more blades that is attached to the engine and used for propelling a boat.

**Propeller Shaft:** Shaft which runs from the back of the engine gear box, aft, through the stuffing box, shaft log, strut, and onto which the propeller is attached.

**Pyrotechnic Distress Signals:** Distress signals that resemble the brilliant display of flares or fireworks.

**Raw Water Cooling:** Refers to an engine cooling system that draws sea water in through a hull fitting or engine drive unit, circulates the water in the engine, and then discharges it overboard.

**Reduction Gear:** Often combined with the reverse gear so that the propeller turns at a slower rate than the engine.

**Reverse Gear:** Changes the direction of rotation of the propeller to provide thrust in the opposite direction for stopping the boat or giving it sternway.

**Roll:** A boat's sideways rotational motion in rough water.

**Rope Locker:** A locker, usually located in the bow of a boat, used for stowing the anchor line or chain.

**Rubrail:** Railings (often rubber or hard plastic) that runs along the boat's sheer to protect the hull when coming alongside docks, piers, or other boats.

**Rudder:** A moveable flat surface that is attached vertically at or near the stern for steering.

**Sea anchor:** An anchor that does not touch the bottom. Provides drag to hold the bow in the most favorable position in heavy seas.

**Scupper:** An opening in the hull side or transom of the boat through which water on deck or in the cockpit is drained overboard.

**Seacock:** Safety valves installed just inside the thru-hull fittings and ahead of the piping or hose running from the fittings.

**Shaft Log:** Pipe through which the propeller shaft passes.

**Sheer:** The uppermost edge of the hull.

**Sling:** A strap which will hold the boat securely while being lifted, lowered, or carried.

**Slip:** A boat's berth between own pilings or piers.

**Sole:** The deck of a cockpit or interior cabin.

**Spring Line:** A line that leads from the bow aft or from the stern forward to prevent the boat from moving ahead or astern.

**Starboard:** The right side of a boat when facing the bow.

**Steerageway:** Sufficient speed to keep the boat responding to the rudder or drive unit.

**Stem:** The vertical portion of the hull at the bow.

**Stern:** The rear end of a boat.

**Stow:** To pack away neatly.

**Stringer:** Longitudinal members fastened inside the hull for additional structural strength.

**Strut:** Mounted to the hull which supports the propeller shaft in place.

**Strut Bearing:** See "cutlass bearing."

**Stuffing Box:** Prevents water from entering at the point where the propeller shaft passes through the shaft log.

**Superstructure:** Something built above the main deck level.

**Swamps:** When a boat fills with water from over the side.

**Swimming Ladder:** Much the same as the boarding ladder except that it extends down into the water.

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**Taffrail:** Rail around the rear of the cockpit.

**Through-hull:** A fitting used to pass fluids (usually water) through the hull surface, either above or below the waterline.

**Topsides:** The side skin of a boat between the waterline or chine and deck.

**Transom:** A flat stern at right angles to the keel.

**Travel Lift:** A machine used at boat yards to hoist boats out of and back into the water.

**Trim:** Refers to the boat's angle or the way it is balanced.

**Trough:** The area of water between the crests of waves and parallel to them.

**Twin-Screw Craft:** A boat with two propellers on two separate shafts.

**Underway:** When a boat moves through the water.

**Wake:** Disrupted water that a boat leaves astern as a result of its motion.

**Wash:** The flow of water that results from the action of the propeller or propellers.

**Waterline:** The plane of a boat where the surface of the water touches the hull when it is afloat on even keel.

**Watertight Bulkhead:** Bulkheads secured so tightly so as not to let water pass.

**Wharf:** A structure generally parallel to the shore.

**Working Anchor:** An anchor carried on a boat for most normal uses. Refers to the anchor used in typical anchoring situations.

**Windlass:** A winch used to raise and lower the anchor.

**Windward:** Toward the direction from which the wind is coming.

**Yacht Basin:** A protected facility primarily for recreational small craft.

**Yaw:** When a boat runs off her course to either side.













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