

West Shore Road, Portsmouth, R. I. 02871 • 401-683-0100

Dear Pearson Owner:

Welcome aboard your new Pearson 303. We are proud to have you join the thousands of other Pearson owners, and we hope you will find this manual helpful and informative.

Your decision to own a Pearson yacht is a source of great satisfaction to us, and we are confident your new boat will provide the same satisfaction for you. By selecting a Pearson, you have expressed confidence in us, and you can rest assured that we have made, and will make, every effort to support your trust.

Every Pearson yacht is manufactured of the finest materials available, by dedicated professionals and craftsmen. It asks only that you treat it as one of the family, and it will return all you can ask of it and more. This manual is intended to guide you through your first few days of ownership, as well as to provide information on care and maintenance that should be of value over the life of the yacht. Individual instruction manuals from the manufacturers of installed equipment are also included where more detailed information is required.

Before getting underway, please take the time to familiarize yourself with the operations and functions of the various systems designed into the Pearson 303 to ensure proper operation. In the event that additional information is needed, we suggest you consult your dealer or call our Customer Services Department.

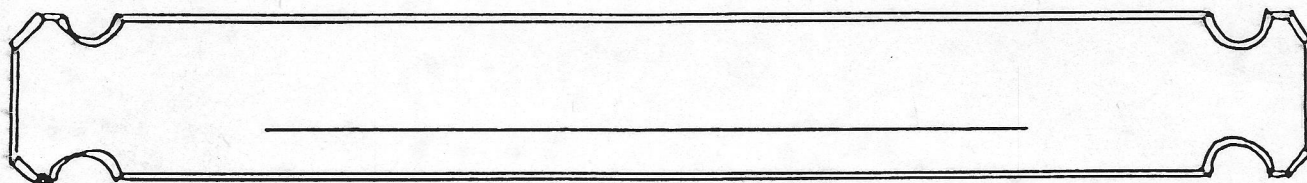
Please accept our congratulations. Have fun and smooth sailing!

Sincerely yours,

PEARSON YACHTS

A DIVISION OF  
**GRUMMAN** ALLIED INDUSTRIES, INC.

YOUR PEARSON 303's VITAL STATISTICS



BOAT NAME

REGISTRATION OR DOCUMENTATION NO.

PORT OF CALL

OWNER'S NAME

OWNER'S ADDRESS

RADIO TELEPHONE CALL NUMBER

30' 3½"  
LENGTH OVERALL

38 Gallons  
FRESH WATER CAPACITY

25' 4½"  
LENGTH, WATERLINE

22 Gallons  
FUEL CAPACITY

10' 11"  
BEAM

William H. Shaw  
DESIGNER

4' 4"  
DRAFT

HULL NUMBER

10,100 lbs.  
DISPLACEMENT

SAIL NUMBER

3,500 lbs.  
BALLAST

11' 2"  
HEIGHT ON CRADLE

44' 3"  
MAST HEIGHT ABOVE DWL

453 SQ. FT.  
SAIL AREA



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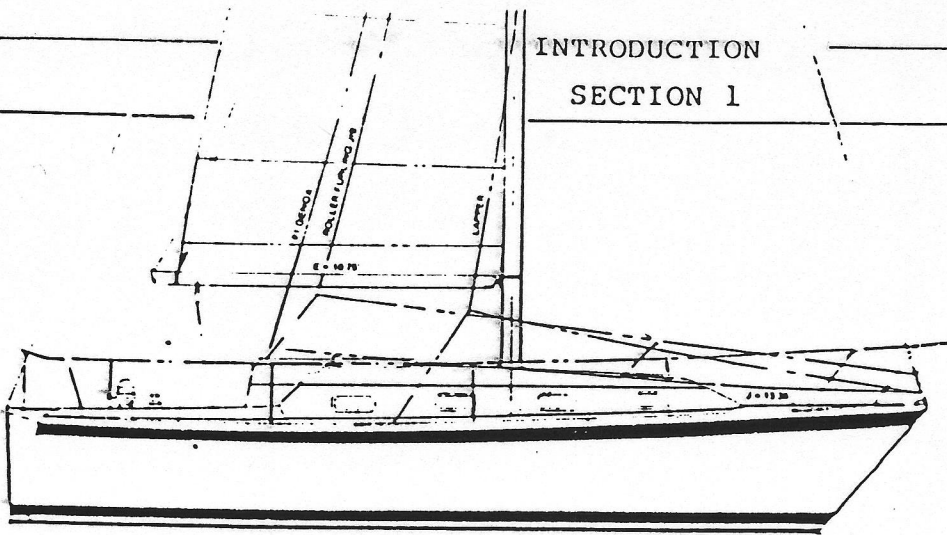
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## INTRODUCTION

### SECTION 1



1.1 This manual is intended to acquaint the owner with the various features of the Pearson 303 as well as to provide information related to the care and upkeep of these features. The manual supplements the literature supplied by the manufacturers of the systems and devices installed in the yacht, and wherever practicable refers to this literature. It is recommended that the literature supplied by manufacturers be retained and the instructions therein followed.

1.2 The manual is divided into four basic sections followed by warranty information and a parts supplement.

Section 1, this section, contains a brief description of the contents and format of the manual.

Section 2 of the manual covers the procedures that should be followed when commissioning the yacht. It includes the procedures that should be followed by the dealer at time of commissioning, as well as those items (such as safety equipment) that are the owner's responsibility. This section of the manual should also prove useful in subsequent recommissionings after periods of layup.

Section 3 of the manual describes the various systems used on the yacht. Reference is made to manufacturers' instructions such as the engine manual and additional information is supplied whenever installations vary from the general conditions assumed in the manufacturers' instructions.

Section 4 provides a maintenance summary covering the procedures that should be followed to maintain the beauty and serviceability of the yacht. There are three subsections; routine maintenance, laying-up procedures, and fitting-out procedures. Whenever feasible, reference is made to the appropriate manufacturer's literature.

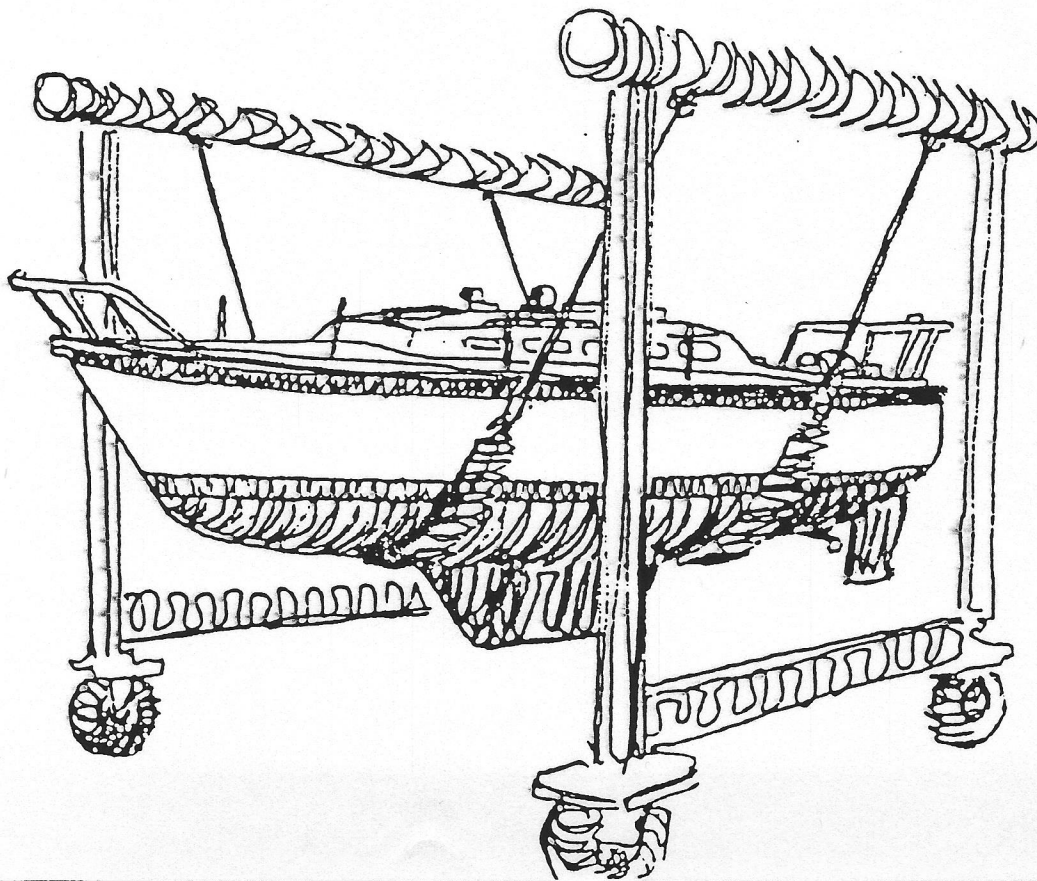
The warranty and parts information located in the back of the manual should be read carefully. This information, along with the warranty and parts information supplied by manufacturers of the system installed, will help maintain the yacht and all of its systems.

## 2.1 INTRODUCTION

2.1.1 The first commissioning of a yacht is essentially the start of the yacht's life, and the importance of proper commissioning procedures at this time cannot be overestimated. The commissioning procedure will be performed by dealer personnel and requires no owner participation. Therefore, the owner need only to concern himself with items such as safety equipment which is considered to be his responsibility. Items of owner responsibility are further delineated in paragraph 2.4 of this section.

2.1.2 Complete lists of the pre-launch and post-launch checks employed during commissioning are provided in this section for those owners interested in understanding the commissioning procedure, as well as for future use in any recommissionings that may be required after periods of wet or dry storage. The lists assume performance by persons cognizant of the procedures that are required, and do not attempt to provide step-by-step instructions. Detailed procedures are available in section 3 of this manual and in the engine manual and other manufacturers' instructions that are provided with the yachts.

2.1.3 The factory installed optional equipment, and items of owner responsibility that require attention during commissioning are included in the list with the optional items marked with an asterisk (\*), and the items involving owner responsibility marked with a double asterisk (\*\*).





## COMMISSIONING

### SECTION 2

#### 2.2 PRE-LAUNCH CHECKS

2.2.1 HULL INSPECTION. Check topsides, decks, and all interior spaces for cleanliness and proper finish. Make certain that all foreign matter has been removed from the bilge areas, and check the following specific items:

- \* ☐ Thru-hulls associated with optional equipment in place.
- ☐ All thru-hull valves lubricated and closed, all hose clamps tight.
- ☐ Propeller nuts and cotter pin properly made up.
- ☐ Steering gear and rudder operational.
- ☐ Strut bearing satisfactory.
- \* ☐ Anti-fouling bottom paint applied

2.2.2 MACHINERY INSPECTION. Make an overall inspection of the machinery spaces. Ensure that they are free of loose material that might interfere with machinery operation, and then check the following items:

- ☐ Engine installation work completed.
- ☐ Engine oil, transmission fluid, and coolant levels satisfactory.
- ☐ All electrical switches OFF.
- ☐ Batteries fully charged, tied down, connected; electrolyte at proper level.
- \* ☐ Installation of optional equipment completed.
- ☐ All fuel and \*LPG valves CLOSED.
- ☐ Adequate amount of fuel in tank.

2.2.3 BEFORE MAST IS STEPPED. Check the following items:

- ☐ Shrouds, stays, spreaders, installed and properly secured to mast.
- \* ☐ Masthead lights and spreader lights operational.
- \* ☐ Mast-mounted instrument units operational.
- \* ☐ VHF antenna installed.
- ☐ All chafe points on mast properly taped.
- ☐ Mast boot slipped onto mast and secured. (See Fig. 3.11)

2.2.4 EQUIPMENT ON BOARD. Check the following items:

- ☐ Winch handles, emergency tiller, and bilge pump handles.
- \*\* ☐ Ground tackle.
- \*\* ☐ Dock lines and fenders.
- \*\* ☐ Safety equipment:
  - ☐ PFD's (life preservers)
  - ☐ Throwable horseshoe or ring buoy
  - ☐ Horn
  - ☐ Ship's bell
  - ☐ Emergency signals (flares, etc.)
  - ☐ Fire Extinguishers.
- \*\* ☐ Medical Kit.
- \*\* ☐ Spares and tool kit.

## COMMISSIONING

### SECTION 2

#### 2.3 POST-LAUNCH CHECKS

2.3.1 HULL INSPECTION. Make an overall inspection of the hull interior. Check bilge areas for evidence of major leaks near thru-hulls, and then make the following specific checks:

- ☐ Open all thru-hull seacocks. Check each valve and associated hoses, couplings, etc.
- ☐ Check propeller shaft packing gland for nominal adjustment. Unless major leaking is observed, defer adjustment until paragraph 2.3.2.
- ☐ Check shaft alignment, align if necessary, connect coupling. (See Fig. 4.4)

2.3.2 ELECTRICAL AND MACHINERY INSPECTION. Make the following checks:

- ☐ Check the 12 volt supply at the electrical panel with the battery switch in the #1 and #2 positions.
- ☐ Make an operational check of all DC circuits connected to the electrical panel.
- \* ☐ Connect the shore power cable, check the polarity indicator, close the 30 amp breaker, and make an operational check of the following:
  - ☐ 110 volt receptacles
  - ☐ Hot water heater
  - ☐ Converter
  - ☐ Other AC
- ☐ Tie down the yacht securely and operate the engine at low speeds in neutral, forward and reverse. Check:
  - ☐ Throttle and shift controls
  - ☐ Engine operation
  - ☐ Charging current (AMP indicator out)
  - ☐ Water temperature (WATER indicator out)
- ☐ Check the fuel system for leakage.
- ☐ Recheck the shaft packing gland for proper adjustment. Adjust if necessary. (See Paragraph 4.4.1)
- ☐ Install and check the operation of the emergency tiller.

(continued)

## COMMISSIONING

### SECTION 2

#### 2.3 POST-LAUNCH CHECKS

2.3.3 RIGGING AND SAILS. Check the following after mast is in place:

- ☐ All standing rigging complete and in place, dockside tuning completed. (See Fig. 3.4)
- ☐ Mast boot installation completed. (See Fig. 3.11)
- ☐ All cotter pins in place and taped.
- ☐ Running rigging in place.
- ☐ Sails hoisted to check fit.

2.3.4 PLUMBING. Check the following:

- ☐ Water tanks full, no leaks.
- \* ☐ Pressure water system operational.
- ☐ Sinks, foot pumps, drains operational.
- \* ☐ Hot water system operational.
- \* ☐ Shower operational.
- \* ☐ Sump pump operational.
- ☐ Head, holding tank, or other MSDs operational.
- ☐ Bilge pump operational.

2.3.5 GALLEY. Check the following:

- \* ☐ Propane or LPG valves, tank, and gauge functioning properly.
- ☐ Galley stove operational.



## COMMISSIONING

### SECTION 2

#### 2.4 OWNER RESPONSIBILITY

2.4.1 A number of safety items are required for compliance with U.S. Coast Guard regulations and these, with a few additional suggestions, are briefly described in the following paragraphs.

2.4.2 REQUIRED SAFETY EQUIPMENT. The current U.S. Coast Guard requirements for a vessel the size of the Pearson 303 call for the following safety equipment (minimum requirement).

- ☐ PFDs (life jackets). One type I, II, or III PFD for each person on board. Type I is recommended for offshore cruising and type II is satisfactory for inshore work. Although legally acceptable, the type III PFD is more suitable for sports activities. A MUST - one PFD on board per person.

**WARNING !** TO BE EFFECTIVE, A PFD MUST FIT PROPERLY. IT WOULD BE PRUDENT TO KEEP A FEW EXTRA CHILD-SIZED JACKETS ON BOARD FOR SMALL VISITORS.

- ☐ Fire Extinguishers. One type B-I or one type B-II extinguishers for a yacht without fixed fire extinguishers in the machinery space. With fixed extinguishing equipment, one type B-I extinguisher meets legal requirements, but an extra one would be greatly appreciated by anyone attempting to fight a fire.
- ☐ Horn. A hand or power-operated horn capable of producing a blast of at least 2 seconds duration and audible for at least one mile.
- ☐ Bell. One ship's bell capable of producing a clear bell-like tone.
- ☐ Distress Signals. Visual distress signals suitable for day and night use must be carried. Although the law can be satisfied by simply carrying 3 hand-held day/night flares, it is recommended that more attention be devoted to this subject. A flare pistol capable of firing meteor and parachute flares with a generous supply of flares is excellent for night; smoke cannisters being a good supplement for bright sunlight.

**CAUTION !** GOVERNMENT REGULATIONS ARE ALWAYS SUBJECT TO CHANGE. REMAIN COGNIZANT OF CURRENT REGULATIONS AND KEEP YOUR VESSEL PROPERLY EQUIPPED.

## SECTION 2

2.4 OWNER RESPONSIBILITY

2.4.3 **ADDITIONAL SAFETY EQUIPMENT.** A number of additional safety items are worthy of consideration. These range from safety harnesses and man-overboard rigs, to emergency beacons, life rafts, and survival suits. Some of these items are mandatory for certain racing circuits, and in any event their use depends upon the intended use of the yacht.

**CAUTION !** REMEMBER THAT SAFETY EQUIPMENT MUST FUNCTION PROPERLY WHEN NEEDED. FOLLOW COAST GUARD AND MANUFACTURER'S CARE AND INSPECTION PROCEDURES CAREFULLY.

2.4.4 **GROUND TACKLE.** The following suggestions are provided as a general guide, and should be revised to suit the areas in which the yacht is to be sailed and the individual preferences of the owner:

☐ Working Anchor. 12-H Danforth anchor with 6 feet of 5/16" BBB chain, 3/8" shackle, and 200 feet of 7/16" 3-strand nylon.

☐ Storm Anchor. 35# CQR or 20-H Danforth anchor with 6 feet of 5/16" BBB chain, 3/8" shackle, and 200 feet of 7/16" 3-strand nylon.

2.4.5 **MEDICAL KIT.** Every yacht should have a medical kit tailored to the specific needs of each owner. Items in the kit should range from aspirin, motion sickness tablets, and first-aid materials, to supplies of medication that are used regularly by crew members. If extensive offshore work is contemplated, the advice of a physician should be obtained regarding additional medical supplies.

2.4.6 **TOOLS AND SPARE PARTS.** Any well-found yacht should carry tools and spare parts. As is the case with most items of owner responsibility, the make up of the tool kit and the stock of spares is subject to variation. A yacht that is to be sailed under purely local conditions, with professional help called in for most, if not all, repairs, needs only minimal tools or spare parts aboard; while a yacht intended for long-range cruising should carry tools and materials for any contingency.

(continued)

2.4 OWNER RESPONSIBILITY

2.4.6.1 The prime sources for specific information concerning spare parts for the machinery aboard the yacht are the manufacturers' instructions and manuals that are supplied with the yacht. Some additional tool and spare part suggestions are provided in the following list:

## TOOL KIT

- ☐ Wrenches (open and box from 3/8 to 3/4 inches).
- ☐ Two adjustable wrenches with 2½" jaws (for shaft packing gland).
- ☐ Assortment of hammers (large and small).
- ☐ Pliers (standard, long nose, vise grips).
- ☐ Scissors.
- ☐ Hacksaw (several spare blades).
- ☐ Sail repair kit.
- ☐ Socket wrenches (same sizes as box wrenches).
- ☐ Assortment of screwdrivers (standard and Phillips).

## SPARE PARTS

- ☐ Standing rigging repair materials such as cotter pins, turnbuckles, stainless wire, clevis pins.
- ☐ Running rigging and sail repair materials such as blocks, extra line, sail slides, duct tape.
- ☐ Miscellaneous items such as:
  - ☐ Hose and hose clamps of any size used on the yacht. Include hose and hose clamps capable of repairing a fuel line break.
  - ☐ Electrical tape, wire, crimp on lugs. Spare fuses for electronic equipment if required.
  - ☐ Assortment of screws, nuts, bolts, and washers.
  - ☐ Oil and transmission fluid for engine.
  - ☐ Lubricating supplies such as spray lubes, and grease for standing rigging.



## SECTION 3

3.1. GENERAL DESCRIPTION

The Pearson 303 is an easy-to-sail masthead sloop. Her 453 square feet of sail area and shallow draft, 10,100 pound hull strike the perfect balance across a wide range of wind and sea conditions. Easily driven by this rig, she sails at low angles of heel and can be handled by a couple or a young family.

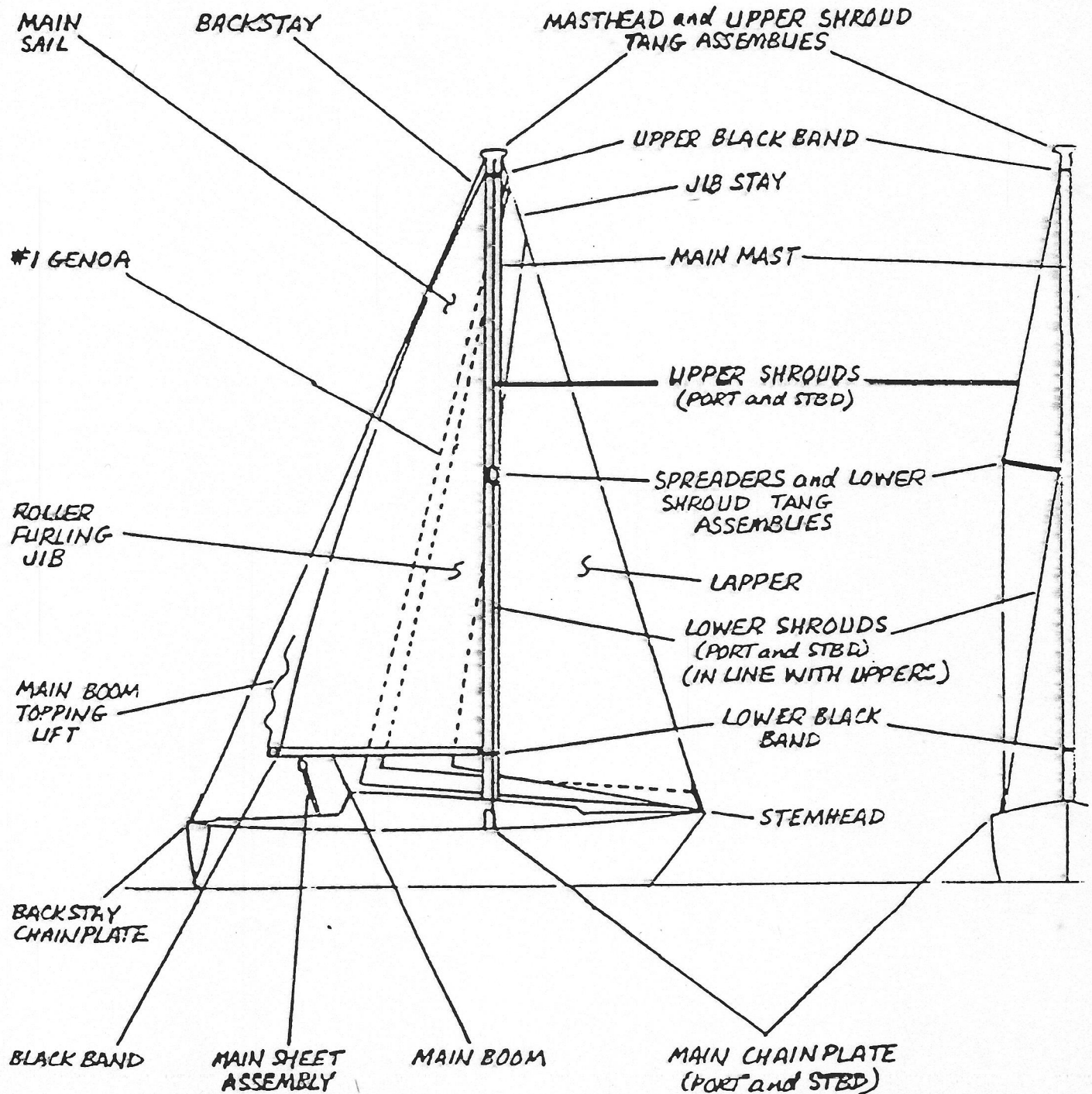


FIGURE 3.1  
SPARS AND RIGGING

## SECTION 3

## 3.2 MAST

## 3.2.1 TIE ROD ASSEMBLY

The MAST is stepped thru the deck. Bracing between the mast collar and mast step is accomplished by a tie rod assembly. This tie rod is adjusted during commissioning and should require no further attention. The tension should never be overtightened. The nut on deck should be finger tight with the boat at rest and the rigging properly adjusted.

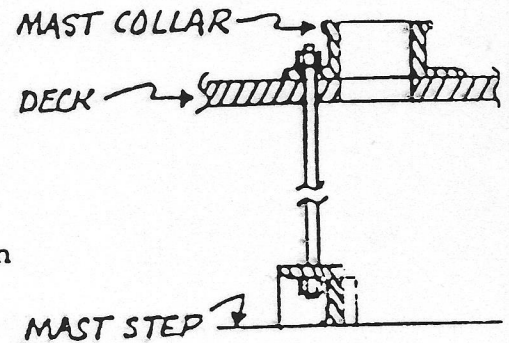


FIGURE 3.2

## 3.2.2 MASTHEAD ASSEMBLY

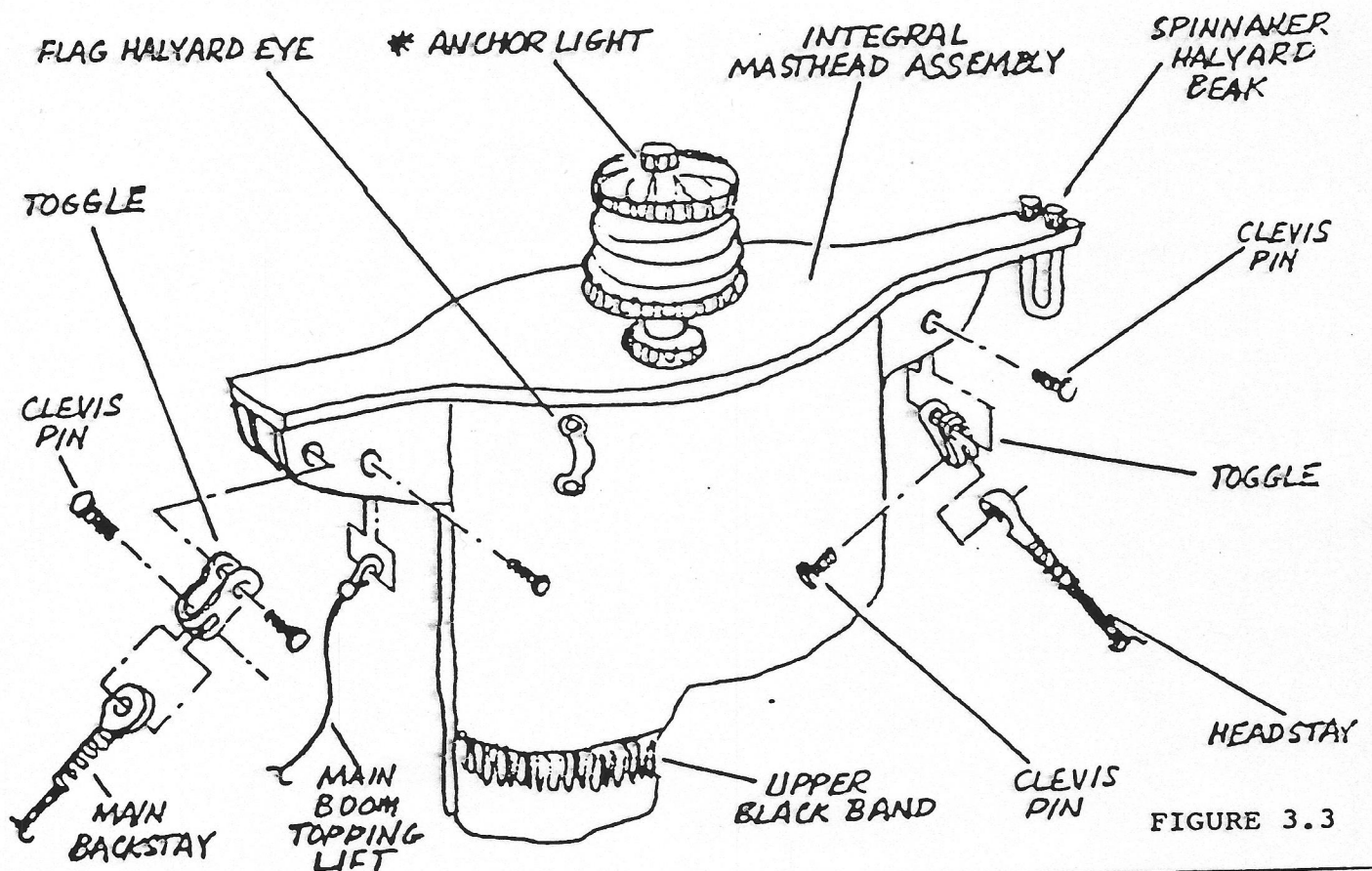


FIGURE 3.3

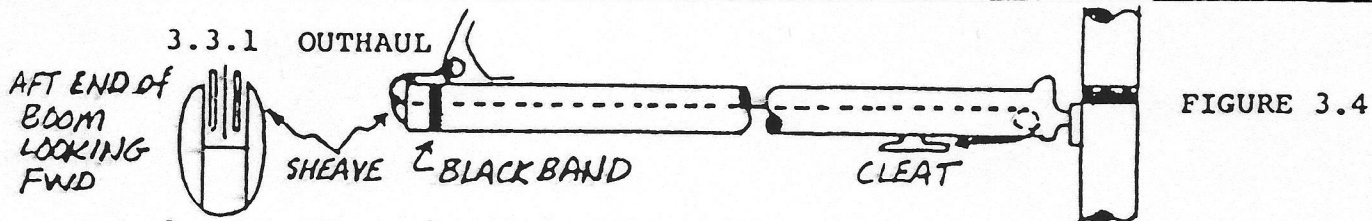
## 3.2.3 SPREADERS AND STANDING RIGGING

The 303's standing rigging consists of a single spreader system, with single upper and lower shrouds secured to chainplates athwartship of the mast; a headstay to provide forward support for the mast as well as support for the headsail; and a backstay. See Figure 3.1, previous page.



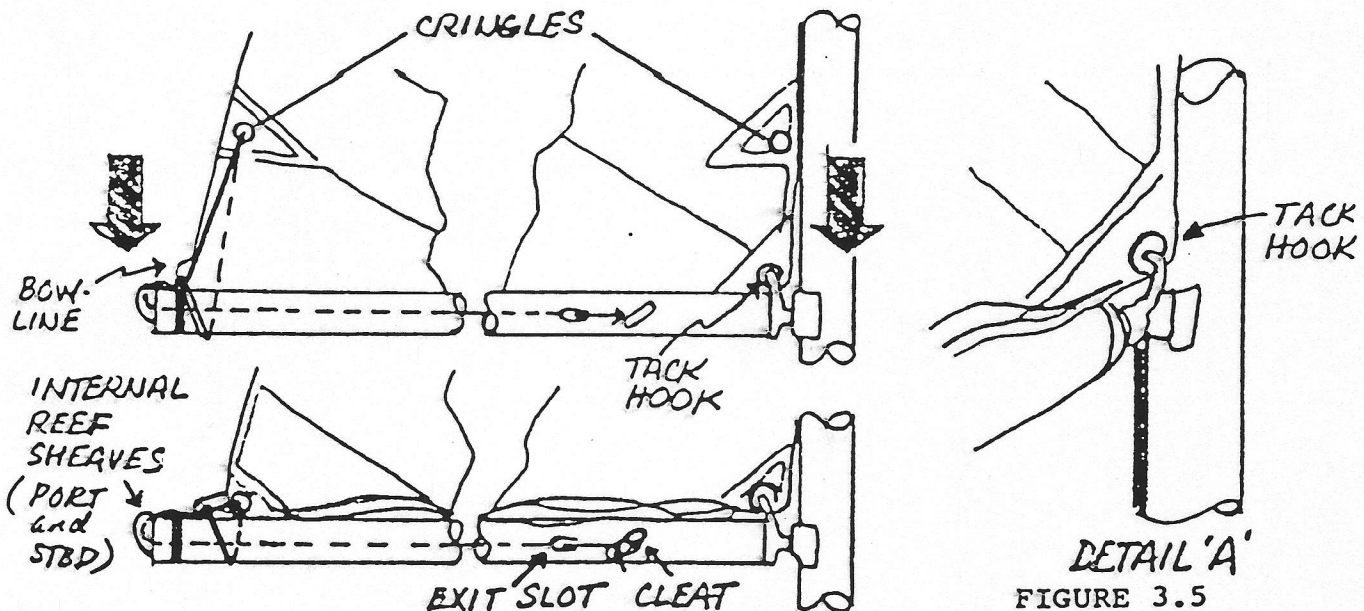
## SECTION 3

## 3.3 BOOM....fixed gooseneck assembly with internal jiffy reefing.



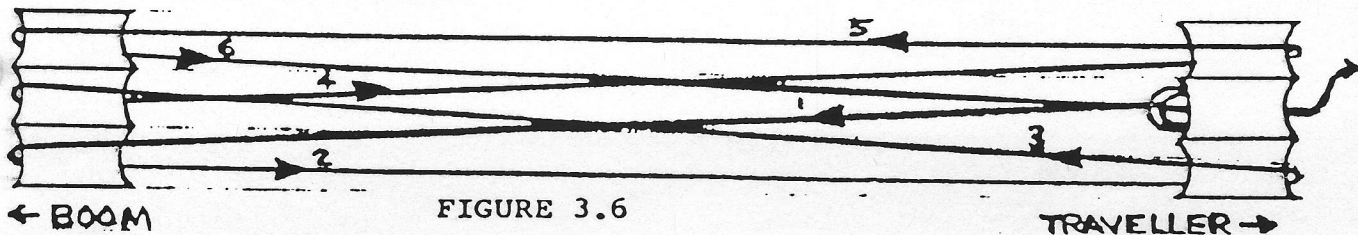
1. Attach outhaul shackle to mainsail clew.
2. Trim main halyard by hauling top of mainsail to black band at top of mast.
3. Trim outhaul by pulling on line in middle of boom (at forward end) until clew reaches black band at aft end of boom. Cleat outhaul (line) in cleat at forward end of boom.

## 3.3.2 JIFFY REEFING (INTERNAL)



1. The halyard is released and the mainsail luff lowered until the reef cringle is drawn down to the gooseneck. (Pre-marking the halyard provides a good reference when releasing.) The reef tack cringle can be hooked quickly onto the gooseneck hook. (See Detail "A".)
2. The main halyard is tightened up.
3. Ease the mainsheet.
4. The leech reef cringle is brought down to the boom and reef line is cleated.
5. Re-trim the mainsheet.

## 3.3.3 MAINSHEET





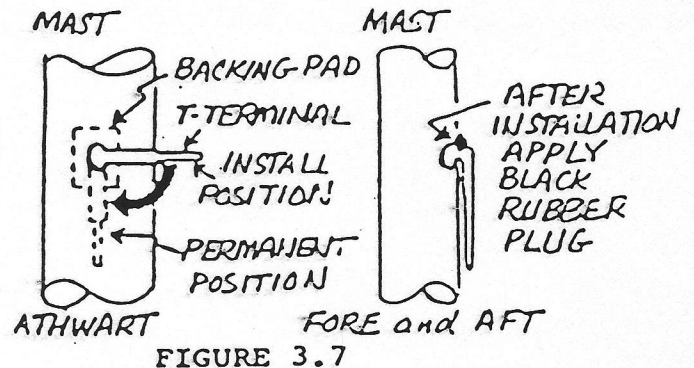
## SECTION 3

## 3.4 DOCKSIDE TUNING

The Pearson 303 is delivered to the owner in as near ready-to-sail condition as possible with all basic tuning completed at time of commissioning. However, a basic tuning procedure has been included in this section to assist the owner in the future.

## 3.4.1 BEFORE MAST IS STEPPED

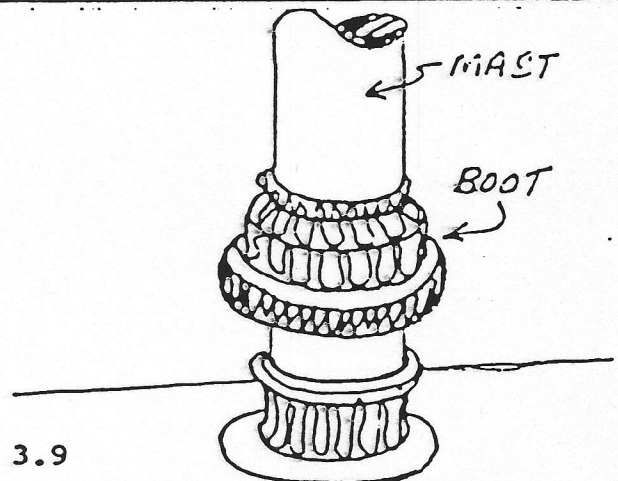
- ☐ Make certain that the headstay, backstay, topping lift, upper and lower shrouds are connected to the mast. Note that toggles must be used when connecting the stays to the mast. Make certain that the headstay also has a toggle at the lower end.



- ☐ Adjust all turnbuckles to their extended position to facilitate attachment when the mast is stepped. Make certain that each turnbuckle is installed with the clockwise threads in what will be the down position when the turnbuckle is in place.



- ☐ Slip the mast boot assembly onto the mast and position it at a point on the mast where it will not interfere with installing the mast into the yacht. Make certain that it is oriented properly (top side up). AN ERROR HERE WOULD REQUIRE REMOVAL OF THE MAST. Temporarily secure the boot assembly at this position.



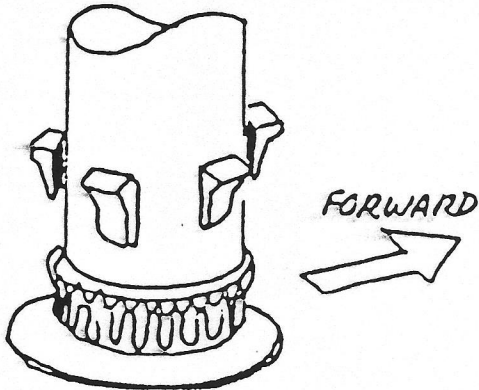
- ☐ Check the operation of any masthead-mounted instrumentation as well as masthead, anchor, or spreader lights. If a flag halyard is desired, it should be rigged now. VHF antenna should be installed.
- ☐ Ensure that all shrouds and stays are properly secured to mast with all cotter pins and chafe points taped.

## SECTION 3

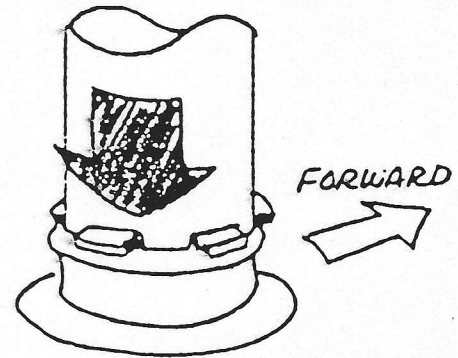
## 3.4 DOCKSIDE TUNING

## 3.4.2 WHILE STEPPING THE MAST

- ☐ **MAST WEDGES.** With the mast stepped and centered in the column over the mast step, install the mast wedges as shown below.



Fit four pieces of mast wedge extrusion snugly between mast extrusion and inside of mast collar. (One each forward and aft and one on each side.) If loose, place a wide, thick bead of silicone sealant on outer face of wedge, allow to dry, retest fit.



Push down mast wedge between mast and mast collar until top flange hits mast collar. Mallet may be needed. This wedge system should fit very tightly to minimize mast movement.

FIGURE 3.10

## 3.4.3 AFTER MAST IS STEPPED

## 3.4.3.1 Rake Adjustment.

- ☐ Hang a weight such as a hammer or wrench from the main halyard just below the gooseneck level. The fore and aft distance between the halyard and the mast at the gooseneck is the amount of rake.

**NOTE:** The Pearson 303 is designed to carry approximately 4½" of rake. This may be varied to satisfy the preference of sailmakers, but forward rake should be avoided.

- ☐ Adjust the headstay, and the backstay turnbuckles (let off on one, take on the other) until the desired rake is achieved. Make certain that the lower shrouds are slack enough not to interfere with this adjustment.

- ☐ Pin the headstay and backstay turnbuckles.



## SECTION 3

3.4 DOCKSIDE TUNING3.4.3 AFTER MAST IS STEPPED

## 3.4.3.2 SIDE-TO-SIDE PERPENDICULARITY

- ☐ Ensure that the lower shrouds are slack enough so as not to interfere with the following adjustments.
- ☐ Lead the shackle end of the main halyard to an identifiable point on the rail or chainplate. Adjust the halyard tension so that the shackle just touches this point, and then cleat the halyard.
- ☐ Lead the halyard to the same location on the opposite side of the deck, and check to see if the shackle touches the same point with the same tension. If this is not the case, let off on one upper shroud turnbuckle and take up on the other to get the desired result.
- ☐ With the mast centered transversely, tighten both upper shrouds uniformly, one full turn on one side, then one full turn on the other. Repeat until the turnbuckles become properly tight. Pin and tape the upper shroud turnbuckles.
- ☐ Tighten the lower shroud turnbuckles to a hand-tight condition, then sight up the mast to check for straightness. Make appropriate adjustments to the lower shroud turnbuckles if this is not the case. Be sure to make equal and corresponding adjustments on each set of turnbuckles (a one-turn take-up on the port lower shroud should be followed by a one-turn easing on the starboard shroud, etc.).
- ☐ Pin and tape the lower shroud turnbuckles. Tape any remaining pins.
- ☐ Make certain that the mast wedges are tight and install the mast boot as shown on the next page.



## SECTION 3

3.4 DOCKSIDE TUNING

Mast boot with two clamps to be slipped up onto mast extrusion BEFORE STEPPING MAST. After stepping the mast and installing the mast wedges, the boot is slipped down into place over the flange on the mast collar and both clamps are tightened sufficiently to provide a water-tight joint between the boot and both the mast extrusion and collar.

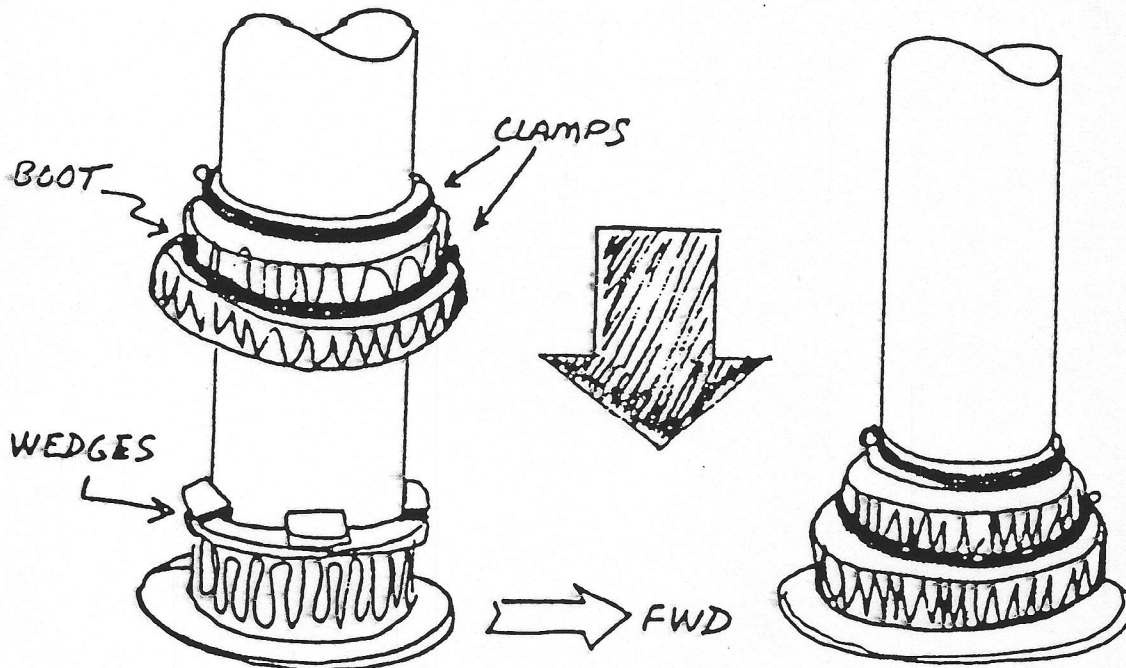


FIGURE 3.11  
MAST BOOT INSTALLATION

## SECTION 3

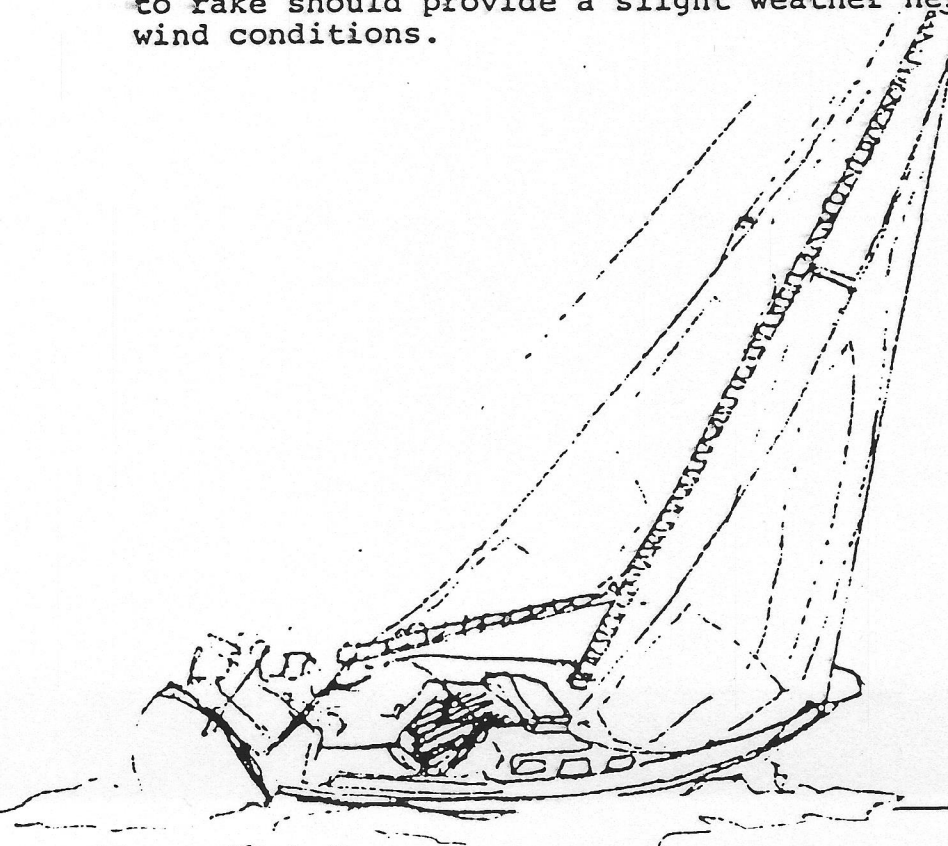
3.5 UNDERWAY TUNING

With the jib and main set, under moderate wind conditions, sail to windward on one tack. Sight up the mast to check for straightness. The mast should not bend to leeward or to windward. If the need for adjustment is indicated, make the proper adjustment to the upper or lower shrouds while observing the following rules.

- ☐ If a take-up adjustment is indicated, go on the opposite tack so that the shroud is more easily adjusted.
- ☐ Be sure to make equal and corresponding adjustments on each set of turnbuckles, ie. a one-turn take-up on the port lower shroud should be followed by a one-turn easing of the starboard lower shroud.
- ☐ Always tack both directions to ensure straightness of the mast.
- ☐ If at all possible, avoid adjusting the upper shrouds since this will affect the mast perpendicularity.

## 3.5.1 WEATHER HELM

The rake of the mast will affect the amount of "weather helm". Weather helm increases as the mast is raked aft and decreases as the rake is reduced. Final adjustments to rake should provide a slight weather helm in moderate wind conditions.



## SECTION 3

3.6 CARE AND MAINTENANCE

The sails, spars, rigging and associated hardware constitute the main propulsion system for the yacht and as such, deserve a measure of attention. Proper care of sails is of utmost importance if expensive replacements are to be avoided, and the recommendations of the sailmakers should be followed closely. The stainless steel standing rigging is virtually corrosion proof, and unless physically abused should give many years of troublefree service. Running rigging when properly selected should also give good service, but being subject to constant wear as well as the deteriorating effect of sunlight, should be monitored on a continuing basis to avoid inopportune failures. Hardware such as winches, blocks and travelers also need periodic attention if they are to remain in first-class condition. The following comments are intended as general guidelines. Additional procedures can be added to suit the intended use of the yacht.

## 3.6.1 RIGGING AND LINES

- ☐ Clean wire rope, swage fittings, and toggles with fresh water and, if desired, a water soluble detergent. Use a stiff brush or nylon scrubbing pads. Do not use steel wool or cleansers containing chlorine.
- ☐ When storing shrouds, stays or halyards, wash with fresh water, dry with a clean cloth, and store in a dry location away from chemicals, oil, or other contaminants. Avoid crushing, kinking, or coiling too tightly.
- ☐ Synthetic rope will deteriorate with prolonged exposure to salt and sun. Rinsing with fresh water is beneficial. An occasional soaking in warm soapy water is also advisable. Rinse and dry thoroughly before stowing.

**NOTE:** AN EXCELLENT WAY TO CLEAN SYNTHETIC ROPE IS TO RUN IT THROUGH A WASHING MACHINE SET ON A WARM CYCLE. FOR THE WELFARE OF BOTH THE SYNTHETIC ROPE AND THE WASHING MACHINE, MAKE CERTAIN IF THIS IS DONE, THAT THE CONSTRUCTION OF THE WASHING MACHINE IS SUCH THAT IT IS NOT POSSIBLE FOR THE ROPE TO SLIP BEHIND THE BASKET.

- ☐ A regular on-going check should be made on all standing and running rigging with emphasis on the following:
  - ☐ Evidence of fraying, chafing, kinking, or other signs of wear.
  - ☐ Cotter pins secure and taped.
  - ☐ Evidence of stress or cracking around swaged terminals.



SECTION 3

3.6 CARE AND MAINTENANCE

3.6.1 RIGGING AND LINES (cont.)

**CAUTION !** DO NOT WRAP WIRE ROPE WITH TAPE, PLASTIC, OR OTHER ADHESIVE MATERIAL. SUCH A COVERING CAN EXCLUDE OXYGEN NEEDED TO MAINTAIN A PASSIVE SURFACE ON THE WIRE. THIS CAN ADVANCE CORROSIVE OR DETERIORATING ACTION.

3.6.2 WINCHES

All winches should be inspected, cleaned and lubricated in accordance with the instructions in the servicing booklet for the winches that is provided at commissioning.

## SECTION 4

## 4.1 GENERAL DESCRIPTION

The heart of the power system installed on your Pearson 303 is a Yanmar diesel, Model 2GMF (13 H.P.). Detailed descriptions of the features of the engine, along with complete operating and maintenance procedures, are provided in the Yanmar Manual, supplied at commissioning. The following paragraphs are a brief overall description of the complete power system and supply details where installation varies from the general conditions assumed in the engine manual.

The power system is comprised of:

- ☐ A fresh water cooled, Yanmar Model 2GMF diesel engine with a 2.6:1 reduction gear.
- ☐ A fuel system consisting of a 22-gallon aluminum tank, a fuel filter, and a manual shut-off valve.
- ☐ A propeller and shaft assembly consisting of a 2-blade 16" (D) x 10" (P) x 1" (RH) solid propeller, a 62" x 1" (D) naval bronze shaft, a molded-in strut with a cutlass bearing, and a shaft packing gland.

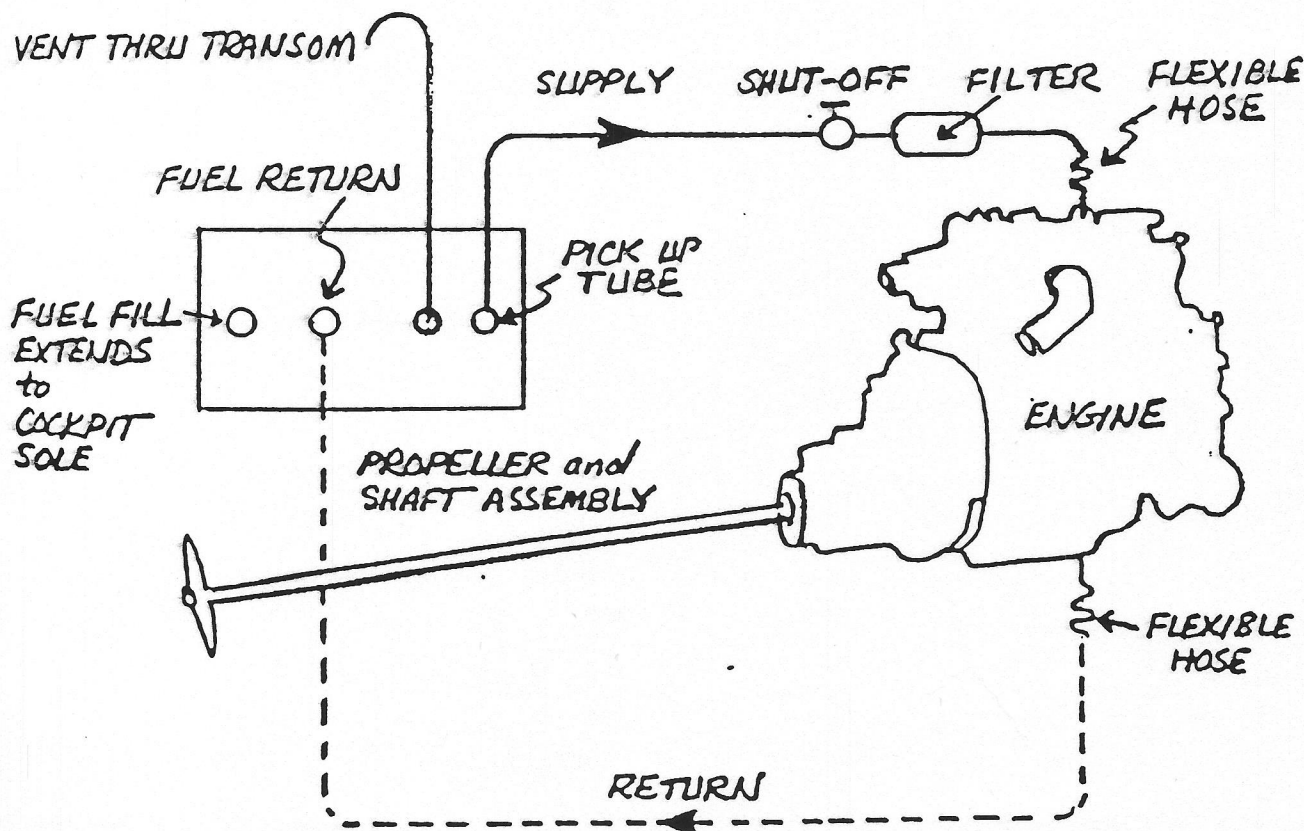
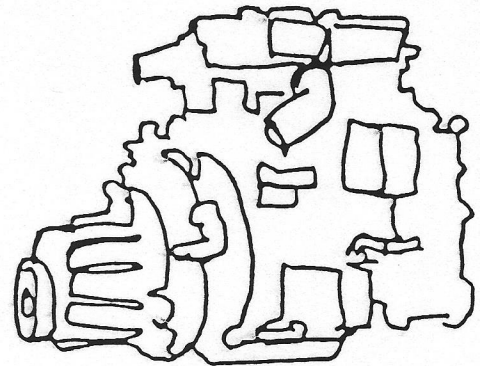


FIGURE 4.1  
POWER SYSTEM SCHEMATIC

## SECTION 4

4.2 YANMAR DIESEL ... Model 2GMF

The Yanmar, Model 2GMF diesel is a 13 H.P., 2 cylinder, fresh water cooled engine. Features of the engine include a 12 volt, 35 ampere alternator and both electrical and hand-crank starting. A complete list of the engine specifications is in the engine manual.



## 4.2.1 CONTROL PANEL

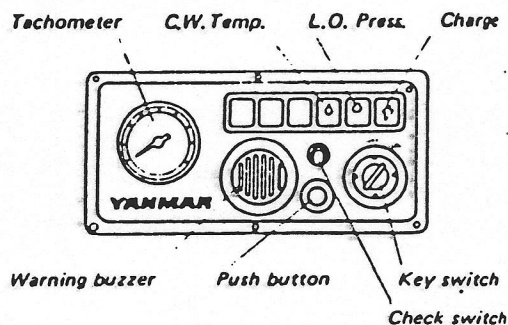


FIGURE 4.2

## 4.2.2 ADDITIONAL CONTROLS

In addition to the control panel, the following controls are associated with engine operation.

☐ Battery Switch

Although properly a part of the electrical system, this switch located in the main cabin at the foot of the ladder, to starboard, must be energized.

☐ Throttle and Shift Controls

A combination throttle and gear shift control is located to starboard at the helm station. An engine "warm-up knob" is located on this control. See page 28 of the Yanmar manual.

**NOTE:** THE KNOB FOR ENGINE WARM UP CAN ONLY BE OPERATED WHEN THE CONTROL LEVER IS PLACED IN THE "NEUTRAL" POSITION.



## SECTION 4

4.2 YANMAR DIESEL ... Model 2GMF

## 4.2.2 ADDITIONAL CONTROLS (cont.)

☐ Decompression Lever

It is located on the engine to assist in cold starts or when the battery is low. See page 32 of the Yanmar manual.

**CAUTION !** EXCEPT IN EMERGENCIES SUCH AS ENGINE RUN-AWAY OR THROTTLE DAMAGE, DO NOT USE THE DECOMPRESSION LEVER TO STOP THE ENGINE. THIS CAN CAUSE SERIOUS DAMAGE TO THE EXHAUST VALVES.

☐ Engine 'Stop' Knob/Cable

Engine stop knob/cable is located on the aft face of the starboard cockpit seat.

## SECTION 4

4.2 YANMAR DIESEL ... operation

Operation of the Yanmar 2GMF includes preparation for starting, running, stopping, and securing the power system after use. The following paragraphs are included as a general guide, with complete procedures being more thoroughly covered in the engine manual.

## 4.2.3 BEFORE STARTING

While this is a practice often neglected on an auxiliary, a power system should always be inspected before starting. At the very least, an inspection should be made at the start of a cruise, and before starting the engine after an extended period under sail. The following items should receive particular attention:

- ☐ Visually inspect the engine space and the engine. Look for fuel and/or water leaks, and any other problems that might preclude starting.

**WARNING !** ALTHOUGH LESS VOLATILE, AND FAR SAFER THAN GASOLINE, DIESEL FUEL IS FLAMMABLE, AND A FUEL LEAK CAN CAUSE A SERIOUS FIRE!

- ☐ Ensure that the engine seacock is open.
- ☐ Ensure that fuel valve is open.
- ☐ Check fuel supply.
- ☐ Check engine and transmission oil levels.
- ☐ Ensure that the battery switch is "ON".
- ☐ Ensure that the transmission control is in "NEUTRAL".

## 4.2.4 STARTING

Normal starts, cold weather starts, starting procedures after a long shutdown, and other operational suggestions are contained in the engine manual commencing on page 24. Some additional suggestions are listed below:

- ☐ Forward, Neutral, Reverse. When shifting from forward to reverse, or vice versa, the lever should be held in the neutral position for a moment before proceeding. Shifting should be performed at less than 900 RPM.

**CAUTION !** DO NOT OPERATE STARTER FOR MORE THAN 15 SECONDS AT A TIME.

## SECTION 4

4.2 YANMAR DIESEL ... operation

## 4.2.5 STOPPING

To stop the engine, pull the engine shut-off control and hold it in this position until the engine stops completely. If the situation warrants such action, this may be done at any time. However, under normal conditions it is recommended that the following procedure be observed.

- ☐ Place engine in neutral and idle for about 5 minutes.
- ☐ After idling, raise RPM to about 3600.
- ☐ Drop RPM to lowest speed. Pull stop knob and hold till engine stops completely.
- ☐ Turn key to OFF.

4.2 YANMAR DIESEL ... operator maintenance

Whether maintenance of the power system is to be performed by the owner or delegated to a mechanic, it is the owner who must first initiate any action that is to take place. He must either perform the maintenance or decide to call someone to do the job, and a working knowledge of the power system is essential in the first case, and desirable in the second. The Yanmar engine manual is, of course, the prime source for engine information and should be consulted, preferably before the fact. The following paragraphs are included as a supplement to cover any required maintenance procedures that are not a part of the engine manual.

## 4.2.6 FUEL SANITATION

The fact that a diesel engine does not require an ignition system can, and usually does, result in an engine that is far superior to a gasoline engine in regards to dependability. Whether this is actually the case depends greatly on the cleanliness of the fuel that is supplied to the engine since the close tolerances required by the engine's fuel delivery system make it extremely intolerant of any form of dirt or water contamination. The engine is supplied with primary or secondary filters that prevent contaminants from reaching the engine where they could cause damage, but a clogged filter, although providing this protection, can also stop an engine. Keeping the filters free of dirt and water is an obvious answer to this problem, and the cleaning schedules set forth in the engine manual will in most cases keep filters clean enough to prevent stoppage.



## SECTION 4

4.2 YANMAR DIESEL ... operator maintenance

## 4.2.6 FUEL SANITATION (cont.)

☐ Bacterial Contamination

A factor that can cause additional problems is bacterial contamination of the diesel fuel. The bacteria involved need both water and fuel to exist, and if present, will thrive at the fuel/water interface in a fuel tank. As they multiply, they form more water and a filter-choking brown slime. Often their presence will not be known until rough weather churns up the fuel tank causing clogged filters at a most inopportune time.

Keeping water out of the fuel will, of course, prevent the problem entirely, and while every effort should be made toward this end, such as obtaining fuel from reputable dealers, it must be remembered that a certain amount of water due to normal condensation in the tank is to be expected.

☐ Fuel Additives

Fuel additives or conditioners provide another means of combatting this problem. These additives break the water down to a molecular level, dispersing it throughout the fuel and allowing it to pass harmlessly through the fuel system. Various brands of this product are available at marine supply stores. As with all products of this nature, the directions on the can should be read carefully.

## 4.2.7 SHAFT PACKING GLAND

See Section 4.4 - Propeller and Shaft Assembly.

## 4.2.8 SHAFT COUPLING

See Section 4.4 - Propeller and Shaft Assembly.

## SECTION 4

## 4.3 FUEL SYSTEM ... General Description

The fuel system for the Pearson 303 is illustrated below and consists of a 22-gallon aluminum fuel tank, fuel suction and return lines, a fuel/water separator as a primary fuel filter, a secondary fuel filter on the engine, and an electric fuel pump controlled by the engine key switch.

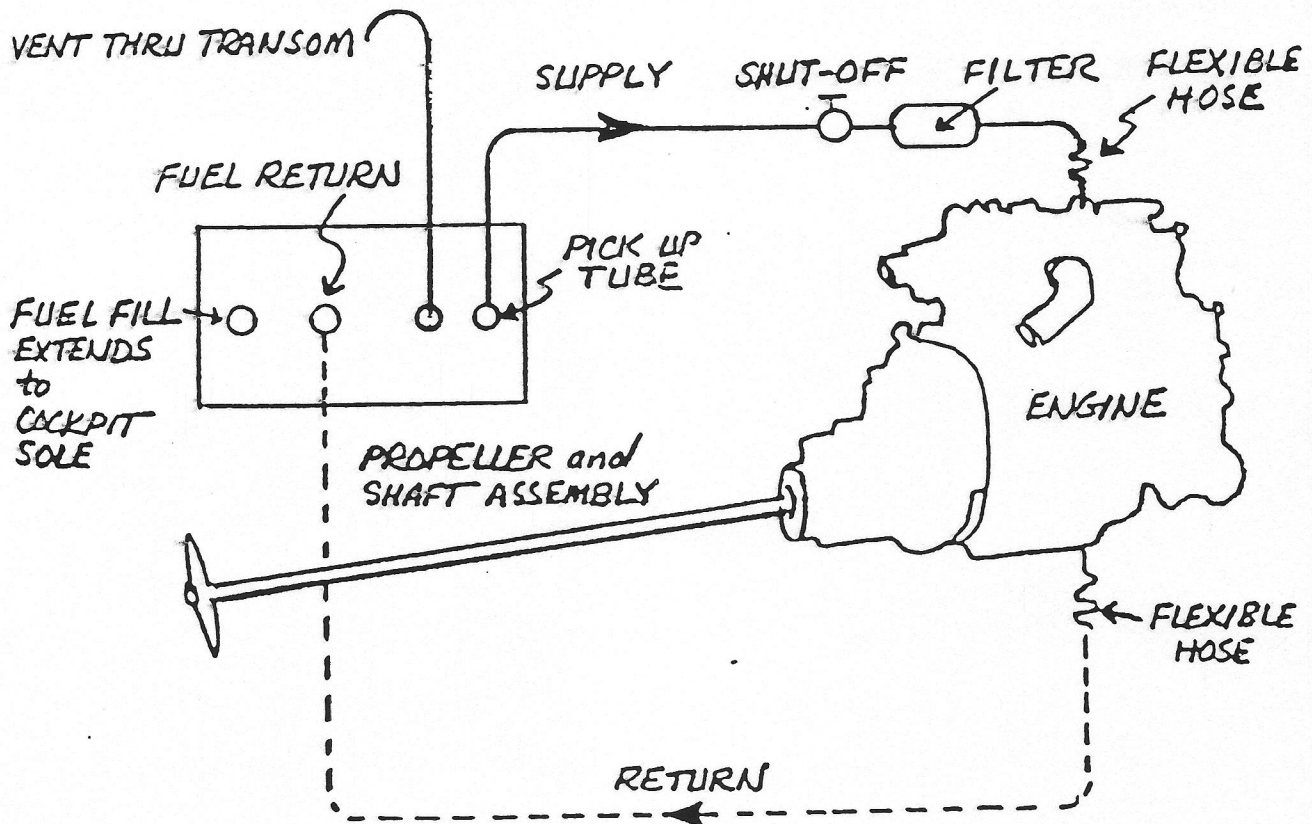


FIGURE 4.3  
FUEL SYSTEM SCHEMATIC

## SECTION 4

4.3 FUEL SYSTEM ... Fueling

While employment of a diesel engine results in a greatly reduced fuel hazard when compared to gasoline, it should be remembered that diesel fuel is flammable, and that the employment of good fueling practices are necessary. The following steps are provided as guidelines.

## 4.3.1 BEFORE FUELING

- ☐ Extinguish all smoking materials and check the fueling area for other sources of spark or flame. Remove if found.
- ☐ Shut off the engine, and the electrical generator if one is aboard.
- ☐ De-energize all electrical equipment.
- ☐ Close all hatches and ports.
- ☐ Ensure that a fire extinguisher is readily available.
- ☐ Ensure that the proper (diesel, not gasoline) hose is about to be used.

**WARNING !** DO NOT FUEL DURING AN ELECTRICAL STORM. BESIDES THE OBVIOUS HAZARD OF LIGHTNING, THE POSSIBILITY OF STATIC DISCHARGE IS GREATLY INCREASED AT THIS TIME.

## 4.3.2 FUELING PROCEDURE

- ☐ Remove fill pipe cover and use dipstick to determine fuel requirements in order to prevent overfilling.

**WARNING !** USE ONLY THE SPECIAL SPANNER WRENCH PROVIDED. DO NOT USE A HAMMER, SCREW-DRIVER, OR OTHER TOOLS WHICH COULD CAUSE A SPARK OR DAMAGE THE COVER.

- ☐ Place nozzle of fuel hose in the fill pipe.

**WARNING !** KEEP THE NOZZLE IN CONTACT WITH THE DECK PLATE RIM DURING FUELING TO AVOID THE POSSIBILITY OF A STATIC SPARK.



## SECTION 4

## 4.3 FUEL SYSTEMS ... Fueling

## 4.3.2 FUELING PROCEDURE (cont.)

- ☐ Fill slowly. Do not overfill. If it is not possible to see the meter on the fuel pump, the attendant or a crew member should call out the gallonage from the fuel dock.

**CAUTION !** FUEL VOLUME WILL INCREASE WITH AN INCREASE IN TEMPERATURE. FILLING THE TANK TO ONLY 95% OF CAPACITY WILL AVOID OVERFLOW PROBLEMS ON A HOT DAY.

## 4.3.3 AFTER FUELING

- ☐ Replace cover, clean up any spilled fuel. If any rags, etc. were used for this purpose, dispose of them ashore.
- ☐ Check below decks for presence of fumes or fuel leakage. Check bilge, engine space, and main cabin.

**WARNING !** IF FUMES OR EVIDENCE OF LEAKAGE IS FOUND, DETERMINE THE CAUSE, CORRECT IT, AND CLEAN UP ANY SPILLAGE BEFORE PROCEEDING.

- ☐ Open all hatches and ports to ventilate the boat.
- ☐ Switch on battery.
- ☐ The engine should be started only when it is certain that no potentially hazardous condition exists.

## SECTION 4

4.4 PROPELLER AND SHAFT ASSEMBLY

## 4.4.1 SHAFT PACKING GLAND

A properly adjusted shaft packing gland should drip slightly (from 4 to 15 drops per minute) with the engine off. Too loose an adjustment will allow too much water in the bilge and engine operation will spray water from the shaft. Too tight an adjustment will rob the engine of power, and the lack of water lubrication in the packing gland can generate enough heat to damage the gland and/or score the propeller shaft.

**NOTE:** THE PACKING GLAND IS LOCATED BEHIND THE ENGINE AND IS ACCESSIBLE THROUGH THE QUARTER BERTH, OR THROUGH THE COCKPIT SEAT LOCKER.

## 4.4.1.1 ADJUSTMENT

- ☐ Holding the packing nut with one wrench, use a second wrench to loosen the lock nut. Turn the lock nut far enough to keep it from interfering with the next adjustment (2 or 3 turns).
- ☐ Tighten the packing nut to obtain 4 to 15 drops per minute.

**NOTE:** HAND TIGHTENING OF THE PACKING NUT IS OFTEN SUFFICIENT TO OBTAIN THIS ADJUSTMENT. IF THIS IS NOT THE CASE, AN ADDITIONAL  $\frac{1}{4}$  TO  $\frac{1}{2}$  TURN WITH THE WRENCH SHOULD PRODUCE THE DESIRED RESULT.

- ☐ Hold the packing nut in place with one wrench, and use the second wrench to bring the locking nut securely against the packing nut.

**CAUTION !** MAKE CERTAIN THAT THE LOCKING NUT IS TIGHT. FAILURE TO DO THIS COULD ALLOW THE PACKING NUT TO BACK OFF WHEN THE ENGINE IS OPERATING.

- ☐ Operate the engine at slow speeds in forward and reverse and use a light to check for excessive water at the packing nut. Shut off the engine and recheck packing nut for proper drip.



4.4 PROPELLER AND SHAFT ASSEMBLY

## 4.4.2 SHAFT COUPLING

All of the propulsion power produced by the engine is transferred to the propeller by way of the engine drive shaft, the propeller shaft, and the coupling that joins these two shafts together. A careful alignment between engine and propeller shaft at the shaft coupling is essential if efficient and vibration-free operation is to be attained. This alignment involves making adjustments to the engine mounts until the mating surfaces of the coupling are properly aligned and is one of the tasks that is performed during commissioning.

**NOTE:** THE SHAFT COUPLING IS LOCATED AT THE REAR OF THE ENGINE.

Once adjusted, the alignment is not likely to require re-adjustment unless it becomes necessary to move the engine, or to perform extensive work on the propeller and shaft assembly. In cases such as this, it is recommended that an experienced marine mechanic perform the adjustment.

Since it may become necessary to disconnect and reconnect the coupling at one time or another (some people prefer to do this when the boat is hauled), and since this procedure, as well as the procedure for simply checking the alignment are not extensive, they have been included in the following paragraphs:

**WARNING !** ENSURE THAT THE ENGINE "OFF/ON" SWITCH IS OFF AND REMOVE THE KEY TO MAKE CERTAIN THAT THE ENGINE CANNOT BE STARTED DURING THE FOLLOWING PROCEDURES.

## 4.4.2.1 TO DISCONNECT COUPLING

- ☐ Remove the four connecting bolts from the shaft coupling, and move the two mating surfaces apart.

**CAUTION !** IF IT IS NECESSARY TO PRY THE COUPLING APART, USE CARE NOT TO SCAR THE TWO MATING SURFACES.



## SECTION 4

## 4.4 PROPELLER AND SHAFT ASSEMBLY

## 4.4.2 SHAFT COUPLING (cont.)

## 4.4.2.2 TO CHECK ALIGNMENT

- ☐ Ensure that the two mating surfaces on the shaft coupling are clean.
- ☐ Pull the shaft forward until the flange faces come gently into contact, and attempt to insert a .002 feeler gauge between the faces. Do this at the 12, 3, 6, and 9 o'clock positions on the flange.
- ☐ Rotate the propeller shaft 180 degrees and repeat the step above.
- ☐ If the feeler gauge can be inserted at any point on the flange, the engine, shaft and V-drive are in need of alignment. If this is the case, an experienced mechanic should perform the adjustment.

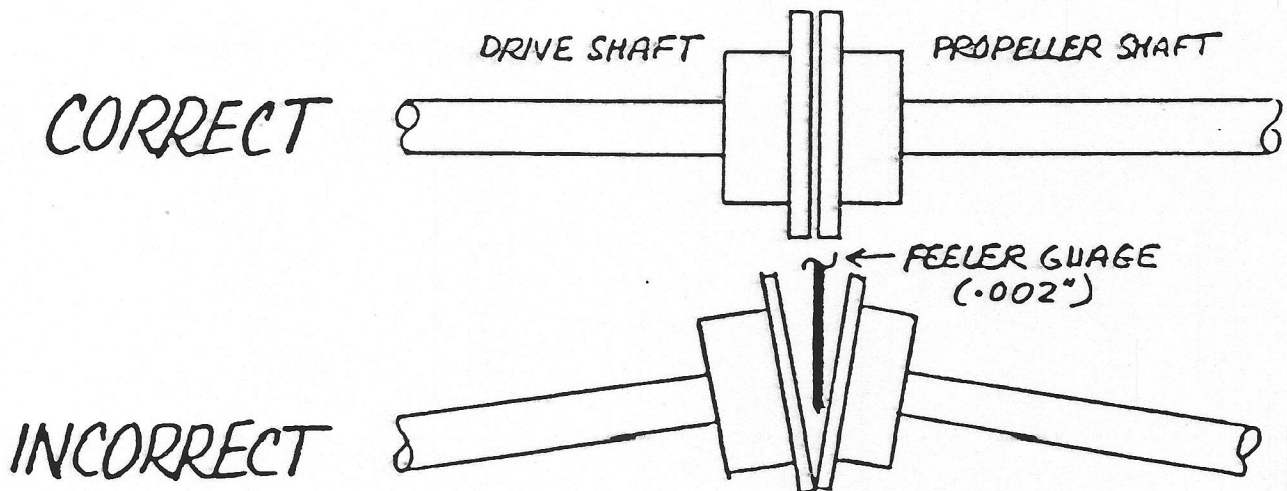


FIGURE 4.4 SHAFT ALIGNMENT

## 4.4.2.3 TO RECONNECT COUPLING

- ☐ Move the shaft flanges close enough to permit threading the bolts through the flanges. Thread all four bolts finger tight.
- ☐ Tighten all four bolts in a uniform manner until they are all tight (approximately 40 ft. lbs.).

## SECTION 5

## 5.1 GENERAL DESCRIPTION

A 12 volt electrical system has been installed on your Pearson 303. An additional 12 volt system is available as an option. A battery ON/OFF switch makes it possible to disconnect the 90 ampere/hour battery from the entire circuit, and a 5-gang switch/circuit breaker panel supplies the yacht's electrical loads. The engine circuit shown in the schematic below (and in greater detail in the Yanmar manual) contains its own electrical disconnect on the engine control panel. The metal parts of the hull are all bonded to a common point for galvanic stability.

**CAUTION !** AS STATED, WHEN IN THE "OFF" POSITION THE BATTERY ON/OFF SWITCH COMPLETELY DISCONNECTS THE BATTERY FROM THE CIRCUIT. THIS SWITCH SHOULD NEVER BE THROWN WHEN THE ENGINE IS OPERATING AS THIS COULD CAUSE DAMAGE TO THE ENGINE ALTERNATOR SYSTEM.

The electrical system on your Pearson 303 requires very little maintenance other than bulb replacement, an occasional check for loose terminals, and the battery care described on the following page.

STANDARD 12 V.D.C. SYSTEM

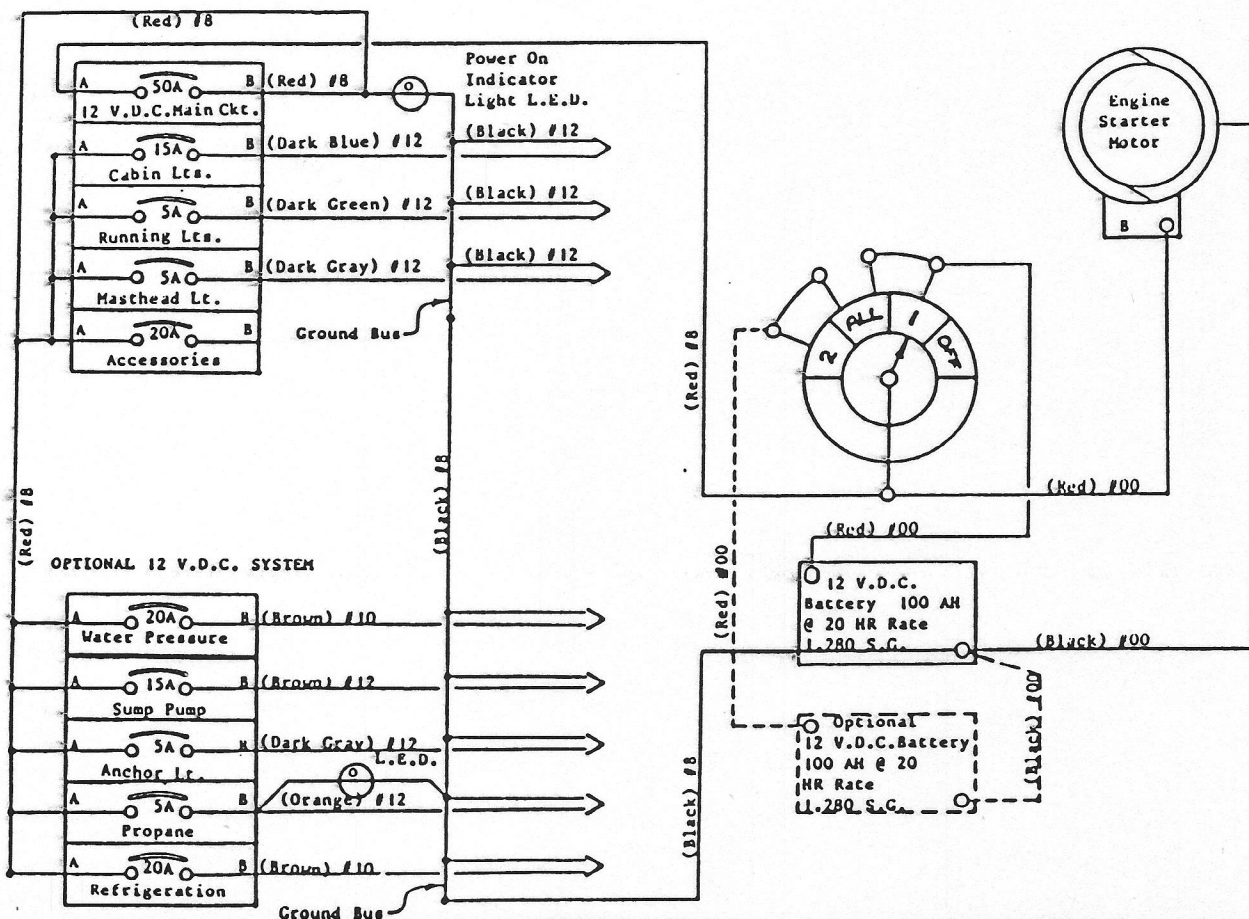


FIGURE 5.1  
PEARSON 303 ELECTRICAL SCHEMATIC



## SECTION 5

5.2 BATTERY

With proper care, the battery installed in the Pearson 303 will provide long and satisfactory service, and proper care is not difficult if a few basic points are remembered.

**WARNING !** THE ELECTROLYTE IN A BATTERY IS A SOLUTION OF SULPHURIC ACID. IF ANY SHOULD ENTER THE EYES, RINSE IMMEDIATELY WITH LARGE AMOUNTS OF FRESH WATER, AND SEEK MEDICAL ATTENTION. ELECTROLYTE SPILLED ON SKIN SHOULD BE RINSED WELL WITH FRESH WATER. EVEN SMALL AMOUNTS OF ELECTROLYTE SPILLED ON CLOTHING WILL DESTROY THE CLOTHING.

☐ ELECTROLYTE LEVEL

The electrolyte level in a battery should never be allowed to fall low enough to expose the plates. This not only results in a loss of battery capacity while the battery is low, but will cause hardening of the active material on the battery plates, resulting in a permanent loss of battery capacity.

**CAUTION !** USE ONLY PURE DISTILLED WATER TO REPLENISH ELECTROLYTE LEVELS. THE WATER FROM MANY CITY WATER SUPPLY SYSTEMS IS UNSATISFACTORY FOR BATTERY USE.

☐ DISCHARGED STATE

Leaving a battery in a discharged state for any length of time can also result in a permanent loss of capacity for the battery. Doing so in cold weather can destroy the battery since it will freeze at relatively low temperatures.

☐ CLEAN CONNECTIONS

Keep battery connections clean and tight. A cup full of strong baking soda solution and a toothbrush will clean corrosion from the terminals and neutralize any spilled acid (do not allow any of the solution to enter the battery cells). A coating of petroleum jelly on the battery terminals will inhibit corrosion.



## SECTION 5

## 5.3 SWITCH/CIRCUIT BREAKER PANEL

The 5-gang switch/circuit breaker panel contains a 50 amp main breaker and four additional breakers. The running lights and mast-head light circuits provide the lighting for navigating under either sail or power and are further described as follows:

☐ RUNNING LIGHTS

This switch controls the red and green side lights and the 12 point stern light that are required lighting for night operation under sail.

☐ MASTHEAD LIGHT

"Masthead light" is U.S. Coast Guard jargon for the 20 point forward white light required in addition to the sail running lights when operating under power, or under sail and power together. On the Pearson 303, this light is located on the forward side of the mast above the spreaders.

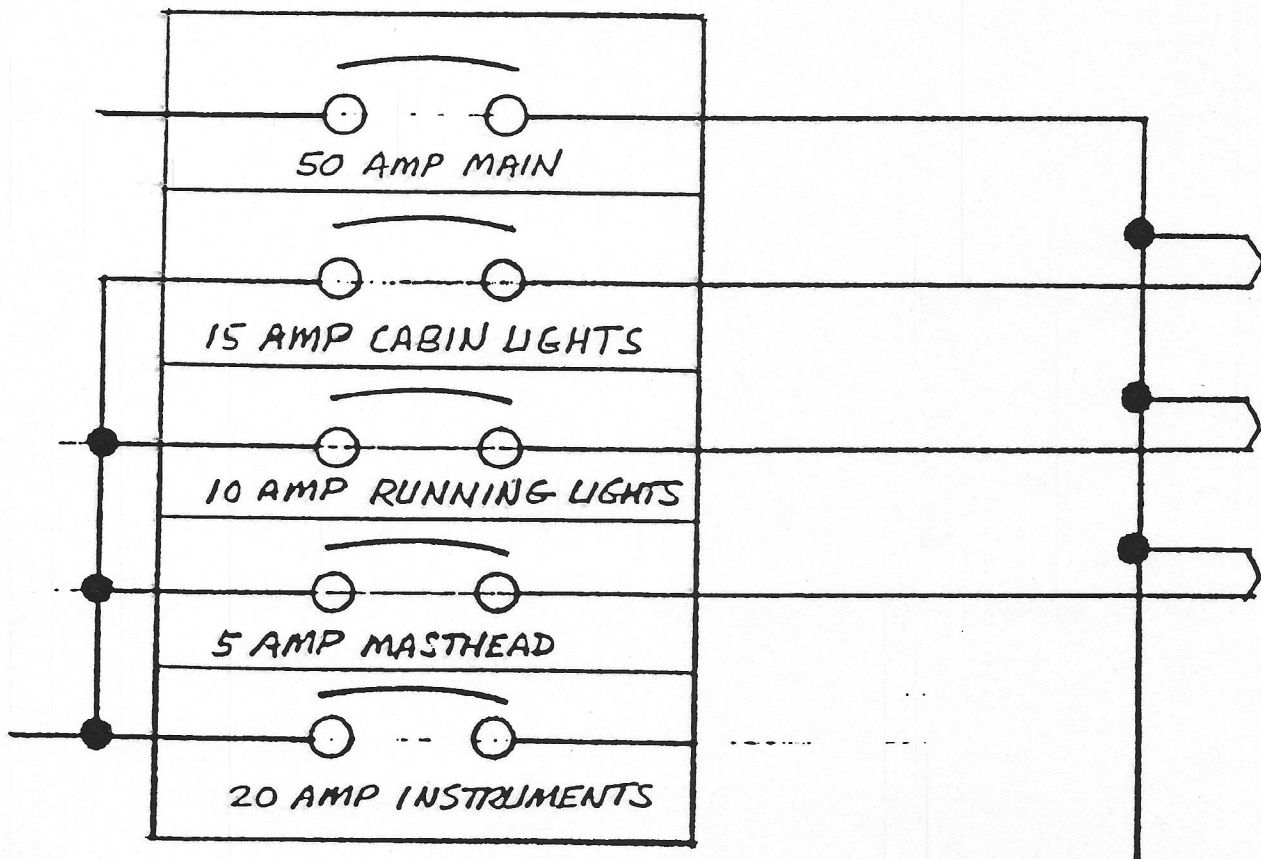


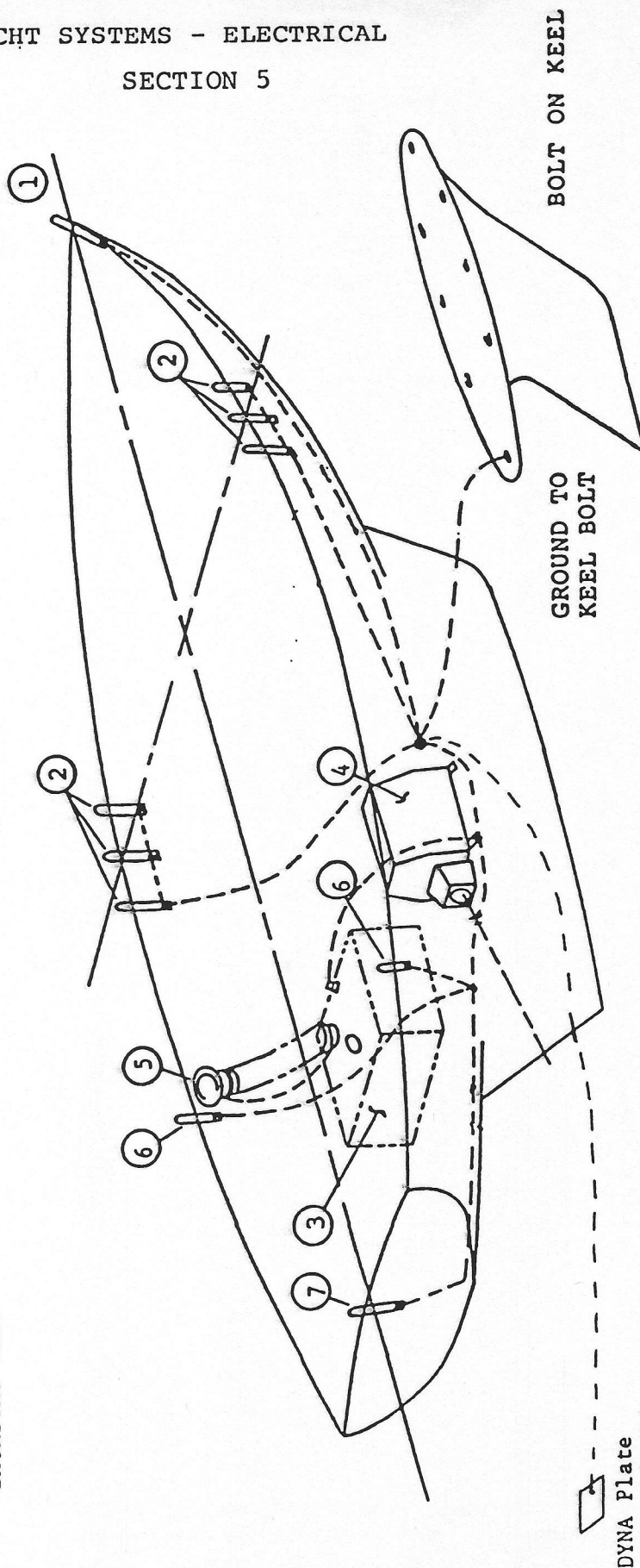
FIGURE 5.2  
PEARSON 303 SWITCH/CIRCUIT BREAKER PANEL

# TYPICAL BONDING SCHEMATIC

## 5.4 BONDING SYSTEM

### YACHT SYSTEMS - ELECTRICAL SECTION 5

- | NO. | DESCRIPTION        |
|-----|--------------------|
| 1.  | STEMHEAD FITTING   |
| 2.  | MAIN SHROUD TANGS  |
| 3.  | FUEL TANK          |
| 4.  | ENGINE             |
| 5.  | DECK FILL          |
| 6.  | MIZZEN SHROUD TANG |
| 7.  | BACKSTAY TANG      |



SECTION 5

5.5 OPTIONAL 120 V.A.C. SYSTEM

Grounded Neutral Conductor (White)

Ungrounded Conductor (Black)

Grounding Conductor (Green)

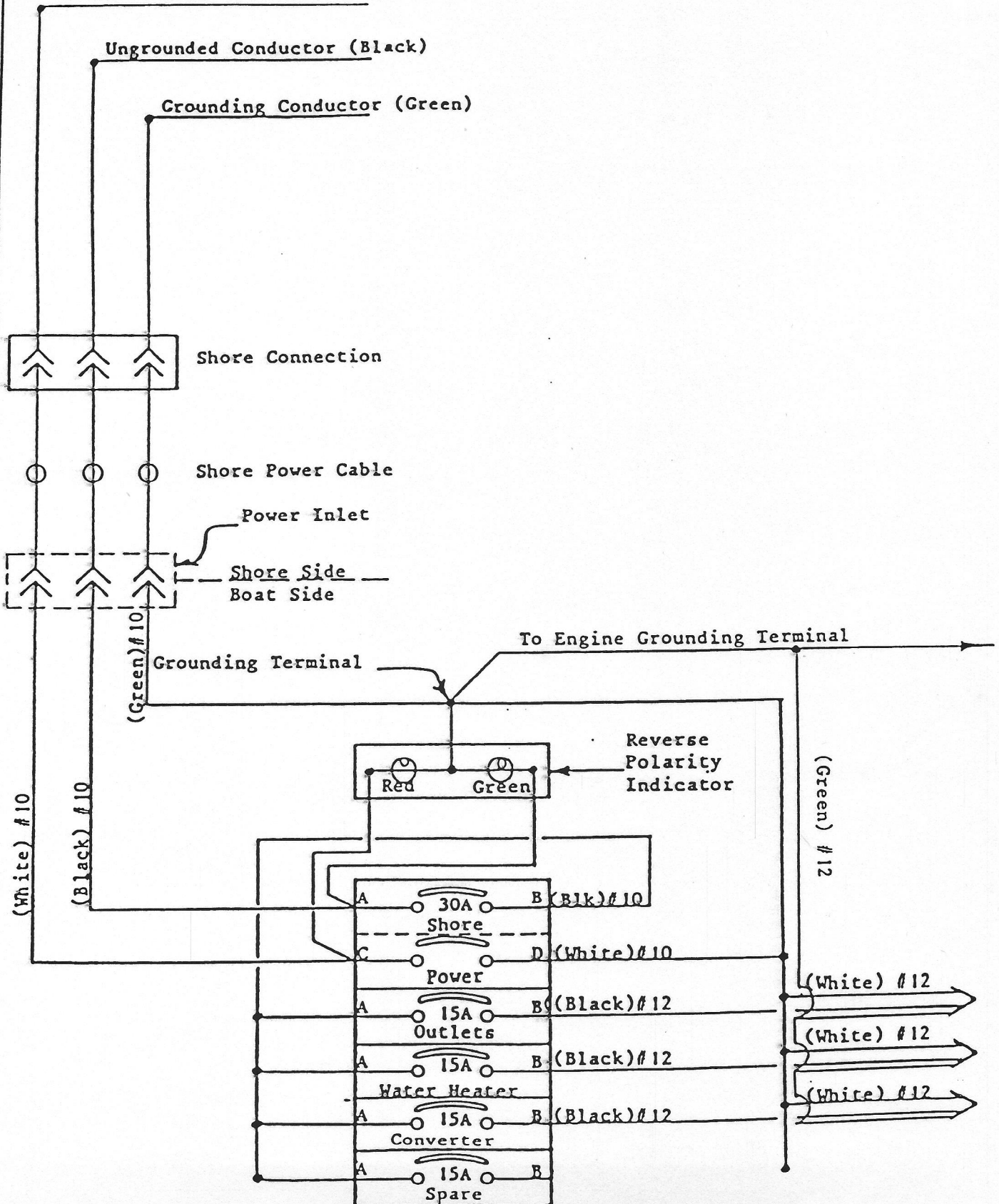


FIGURE 5.4

Revised 1-3-83



## SECTION 6

## 6.1 GENERAL DESCRIPTION

## 6.1.1 WHEEL STEERING SYSTEM

The Pearson 303 employs an Edson pedestal sheave and cable steering system. An optional brake mechanism located on the starboard side of the unit permits the wheel to be locked in position if desired.

The maintenance that is required for the steering system consists largely of oiling and greasing the mechanism, cable, and sheaves and is well-covered in the manufacturer's literature that is supplied at commissioning. It is recommended that the procedures described in this literature be followed to ensure many years of trouble free service.

## 6.1.2 EMERGENCY TILLER

The steering system includes an emergency tiller that can be fitted over the rudder stock head in the event that a failure should occur in the pedestal system. Access to the rudder stock head is gained by removing the cover on top of the rudder stock allowing the emergency tiller to be installed.

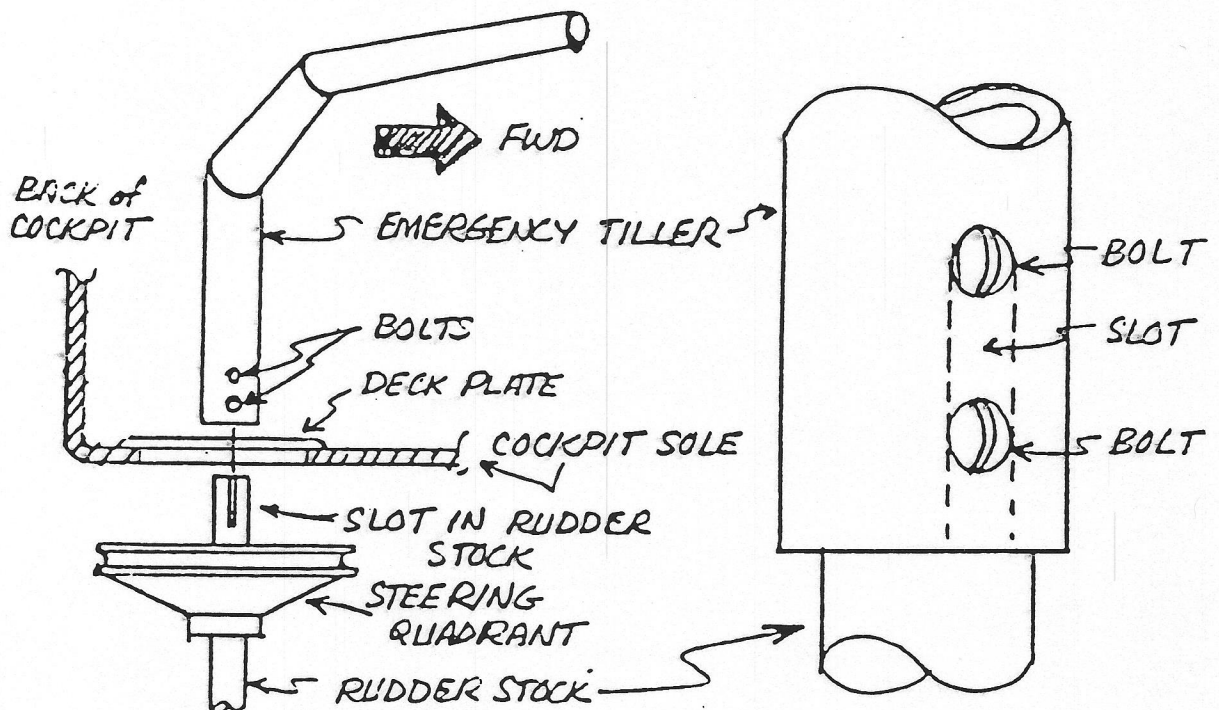


FIGURE 6.1

## SECTION 6

6.1 GENERAL DESCRIPTION

## 6.1.2 EMERGENCY TILLER (cont.)

- ☐ A dry run of your emergency tiller system in stable conditions will lessen confusion in times of crisis. Before casting off, make sure you have not left your emergency tiller ashore. Once aboard, make sure the emergency tiller is stowed in an easily accessible place and not under a pile of gear at the bottom of a sail locker.
- ☐ Remove deck plate at aft end of cockpit sole to expose slot in top of rudder stock. The slot in the rudder stock will receive the bolts on the lower end of the emergency tiller. Be sure both bolts have been set into the slot making a secure fit. Deck plate should be periodically lubricated to ensure proper operation.

**NOTE:** THE EMERGENCY TILLER WILL MOVE THE WHOLE STEERING SYSTEM SO EACH PART INCLUDING THE CABLE AND RUDDER MUST BE CLEAR. NOTE THAT THE STEERING WHEEL MUST BE REMOVED TO CLEAR THE EMERGENCY TILLER.

## SECTION 7

## 7.1 THRU-HULL FITTINGS

A number of the standard and optional systems used on the Pearson 303 must penetrate the hull for intake of water. In addition, scuppers, drains, and certain waste discharge systems are also brought out below the waterline. Knowledge of the precise location of each thru-hull is important, and should be one of the first things a new owner learns about his boat. Thru-hull locations are illustrated below.

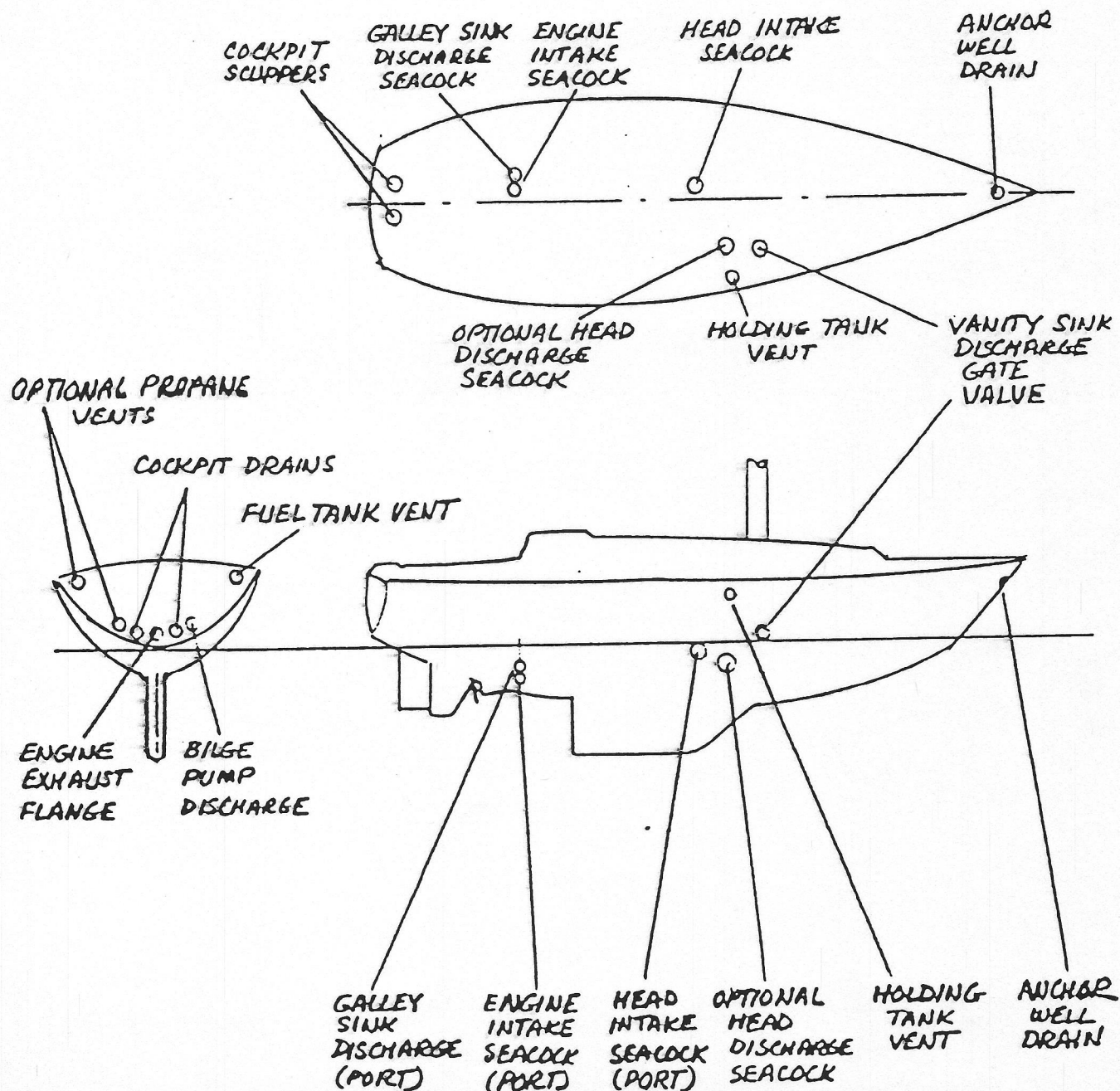


FIGURE 7.1  
THRU-HULL SCHEMATIC



## SECTION 7

## 7.2 FRESH WATER SYSTEM

The diagram below shows the fresh water system installed on your Pearson 303.

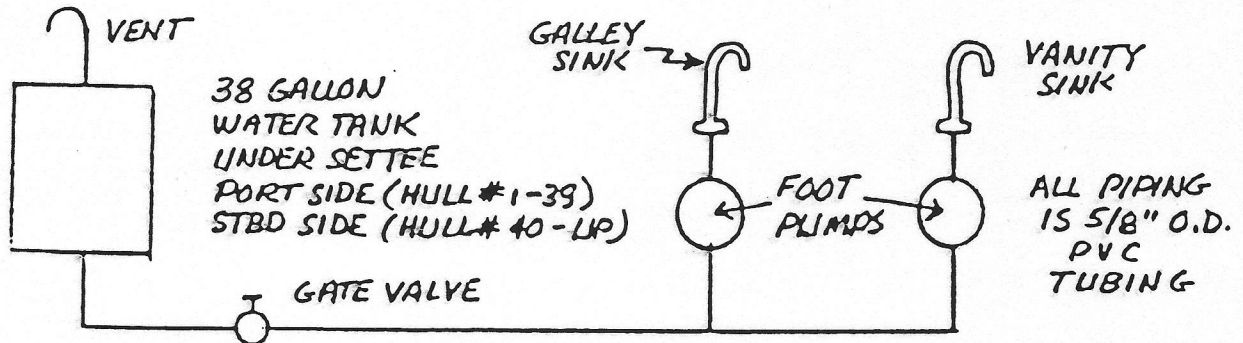


FIGURE 7.2

**CAUTION !** DO NOT OVERFILL THE TANKS. FILLING TO OVERFLOWING WILL SUBJECT THE TANKS TO EXCESSIVE HYDROSTATIC PRESSURE WHICH MAY RUPTURE THE TANKS.

## 7.2.1 OPTIONAL PRESSURE SYSTEM

Normal operation of the pressure system simply involves energizing the WATER PRESSURE circuit breaker on the DC panel. The pressure pump will then turn itself on and off whenever a faucet is opened or closed. If the system is being started up after a long shut down, or after having run the system dry, it may be necessary to perform the following steps:

- ☐ Ensure that the selector valve to only one tank is open and that sufficient water is in the tank that is to be used.
- ☐ Open all faucets, hot and cold.
- ☐ Energize the "WATER PRESSURE" circuit breaker.
- ☐ Close each faucet when it starts to deliver a steady stream of water (cold water faucets first).
- ☐ The pump should stop operating when the last faucet is closed, and the system is now ready for automatic operation.

## 7.2.2 WATER SYSTEM MAINTENANCE

The manufacturer's literature supplied at commissioning provides the necessary information for maintenance, repair, and winterization of the water system.

## SECTION 7

## 7.3 PROPANE OR LPG SYSTEM (OPTIONAL)

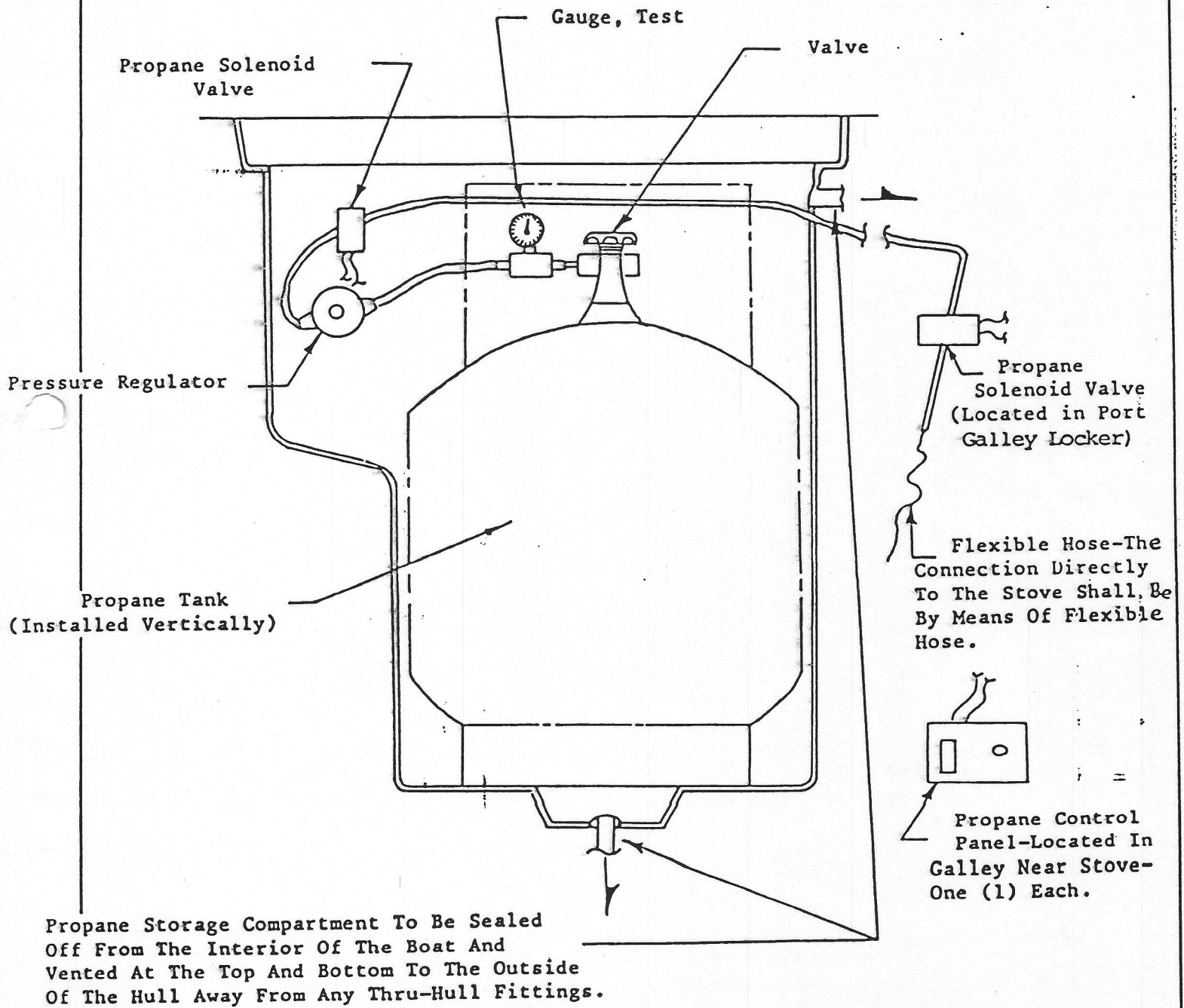


FIGURE 7.3



## SECTION 8

8.1 INTRODUCTION

This section of the manual consists of a summary of the maintenance required for the hull proper and for the various systems installed in the Pearson 303. The section is divided into three categories:

☐ ROUTINE MAINTENANCE

Those tasks that should be performed on a more or less continuing schedule. These range from daily routines such as engine fluid level checks, to tasks such as bottom painting that normally fall into annual cycles.

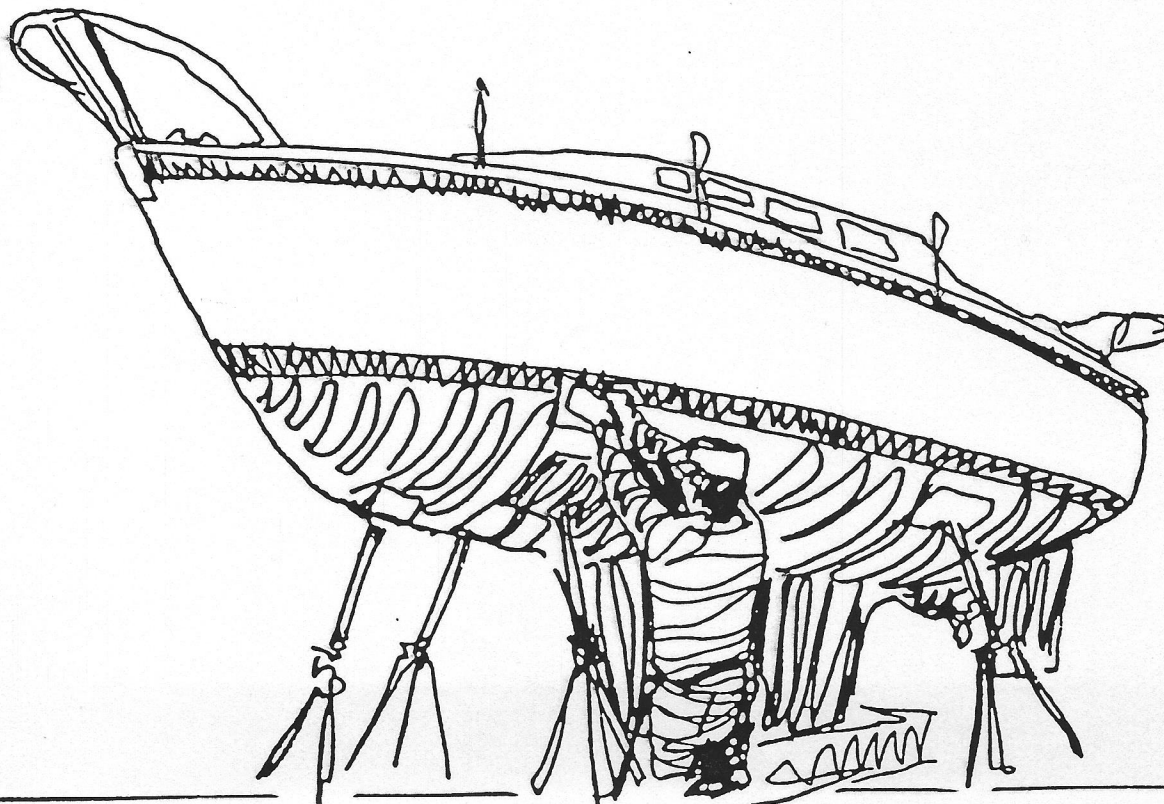
☐ LAYING UP

Tasks to be performed if the yacht is to be stored for a period of time, especially during cold weather.

☐ FITTING OUT

Tasks required to place the yacht back in commission after a lay-up period.

It should be evident that it is not possible to draw up precise maintenance schedules that will completely satisfy the requirements of each individual yacht. For example, a vessel receiving moderate use that is laid up during the winter months can receive much of the long-term routine maintenance at the beginning or end of the winter lay-up period. Yachts used throughout the year will have to schedule time to perform these tasks.





## SECTION 8

8.2 ROUTINE MAINTENANCE

Many of the routine maintenance tasks, such as care of teak, can be performed when the need becomes evident; others such as checking engine oil level, must be performed on a regular schedule if expensive repair bills are to be avoided. Recommended schedules have for the most part been taken from the literature supplied by the manufacturers of the equipment installed in the yacht. Additional information that may be desired should be taken from these sources.

## 8.2.1 TOPSIDES, DECKS, AND BELOW DECKS

☐ GELKOTE

A fresh water hose-down of deck and topsides at every opportunity, plus an occasional fresh water and detergent wash, will help preserve the gelkote surfaces. Use a sponge or a soft brush on the smooth surfaces, and a stiff brush on the non-skid areas. Rinse thoroughly with fresh water to avoid streaking.

**CAUTION !** DO NOT USE ABRASIVE CLEANERS FOR DAY-TO-DAY CLEANING. IT WILL RAPIDLY DULL THE GELKOTE SURFACE.

At least once a year, the smooth gelkote surfaces should be cleaned thoroughly, washed and polished. Bronze wool can be used for cleaning stubborn areas. Abrasive cleaners should be used sparingly, if at all. Use a wax especially formulated for fiberglass surfaces.

**CAUTION !** NEVER USE STEEL WOOL FOR ANY KIND OF CLEANING ON A YACHT. SMALL PARTICLES WILL REMAIN, CAUSING RUST SPOTS THAT ARE DIFFICULT TO REMOVE.

☐ WOOD SURFACES

Depending on the personal preferences of the owner, the exterior teak on the Pearson 303 may be oiled, varnished, or left alone. If left untreated, exterior teak takes on a gray appearance that is pleasing to some people, but requires almost constant scrubbing to keep presentable. Varnished teak retains a fresh light color, but requires a lot of attention since varnish does not adhere well to teak. Oiled teak is the easiest to maintain although it has a tendency to darken with age. A number of excellent products for maintaining oiled teak are available, and the instructions regarding their use should be followed carefully.

## SECTION 6

3.2 ROUTINE MAINTENANCE

## 8.2.1 TOPSIDES, DECKS, AND BELOW DECKS (cont.)

**CAUTION !** THE USE OF COMMERCIAL TEAK CLEANERS SHOULD BE AVOIDED. IF ANY ARE USED, GREAT CARE MUST BE EXERCISED TO KEEP THE CLEANER FROM COMING IN CONTACT WITH ADJACENT SURFACES SINCE IT CAN DAMAGE VARNISHED, PAINTED, OR GELKOTE SURFACES.

When a lighter finish is desired with oiled teak, the dark outside layer of wood can be removed by rubbing with bronze wool or with fine sandpaper. After rubbing, the teak should be well-oiled.

The interior wood finishes on the Pearson 303 should last for several seasons before requiring renewal. It should, however, be kept in mind that it is far easier to refinish a surface in fair-to-good condition than to refinish a surface that has been allowed to deteriorate.

## 8.2.2 BELOW THE WATERLINE

With the exception of small craft that are removed from the water between operations, all vessels require some form of bottom protection to avoid the accumulation of bottom growth. This usually needs to be done on a yearly basis. Although fresh water areas do not generate the wealth of animal life that accumulates on bottoms in salt water, it nevertheless will cause growth or moss, grass, and other flora that will significantly affect the performance of the yacht.

☐ BOTTOM CLEANING

Cleaning the accumulated growth from a boat bottom is far easier when the growth is wet than after it has been allowed to dry out. While still wet, a power spray and stiff brush will remove most bottom growth. Barnacles that resist this action can easily be removed with a scraper.

**NOTE:** WHILE CLEANING THE BOTTOM, PROBE INTO ALL THRU-HULLS TO REMOVE ANY BARNACLES THAT MAY HAVE ATTACHED THEMSELVES TO THE INSIDE OF THE PASSAGES.



## SECTION 8

8.2 ROUTINE MAINTENANCE

## 8.2.2 BELOW THE WATERLINE (cont.)

☐ BOTTOM PREPARATION

Most bottom paints require removal of all loose material from the bottom, and a thorough but light sanding of any portions of the old paint that remains in good condition. A proper sanding procedure will normally take off approximately the same amount of old paint as is intended to be reapplied. This avoids excessive paint accumulation that will eventually cause peeling and roughness on the bottom.

**CAUTION !** BE SURE TO WEAR A PROTECTIVE MASK OR RESPIRATOR WHEN SANDING OR APPLYING BOTTOM PAINT.

☐ BOTTOM PAINTING

The actual formula of the bottom paint that should be applied is, to a great extent, determined by the general area in which the yacht is expected to operate (fresh or salt water, temperate or tropical areas, etc.), and local advice from reputable yards is helpful. Application of bottom paint should always conform to the manufacturer's instructions if maximum effect is to be achieved. Some bottom paints recommend thinning, others do not. Some specify that the boat be returned to the water before the paint has completely dried out (usually 3 or 4 days), and others make no qualifications in this area but may have other requirements.

**CAUTION !** SOME BOTTOM PAINT FORMULAS ARE NOT COMPATIBLE WITH OTHERS AND CANNOT BE APPLIED DIRECTLY OVER ONE ANOTHER WITHOUT PROPER PREPARATION. THE OWNER SHOULD KEEP A RECORD OF THE TYPE BOTTOM PAINT THAT IS IN USE TO AVOID ANY PROBLEMS IN THIS AREA.

## 8.2.3 WINCHES

Perform maintenance in accordance with the manufacturer's instructions provided at commissioning. This involves periodic disassembly, cleaning, oiling and greasing.



## SECTION 8

8.2 ROUTINE MAINTENANCE

## 8.2.4 SPARS AND RIGGING

The aluminum spars and stainless steel rigging on the Pearson 303 require little routine maintenance other than cleaning, and the regular on-going checks that any prudent person would make for signs of wear. Some cleaning and inspection procedures are included in the following paragraphs:

☐ CLEANING WIRE ROPE AND RIGGING

Using a stiff brush or nylon pads, clean with fresh water and detergent. Rinse thoroughly.

☐ CLEANING SYNTHETIC ROPE

When practicable, soak overnight in warm water, rinse thoroughly, dry before storing.

☐ RIGGING INSPECTION

At least once a season, make a complete inspection of all the yacht's rigging and fittings. Check fittings for cracks and other signs of wear. Check that cotter pins are secure and properly taped.

## 8.2.5 POWER SYSTEM

Details for most of the power system maintenance procedures are contained in the engine manual with the following being a brief summary of items that should receive frequent attention. For long engine life and efficient operation, the complete maintenance schedule as set up in the engine manual should be followed.

☐ DAILY

- ☐ Check engine coolant level.
- ☐ Check engine lube oil level.
- ☐ Check transmission fluid level.

☐ EVERY 100 HOURS, OR TWICE A SEASON (WHICHEVER COMES FIRST)

- ☐ Clean air intake filter
- ☐ Check packing gland on stuffing box for excessive leakage.

☐ EVERY 200 HOURS, OR ONCE A SEASON (WHICHEVER COMES FIRST)

- ☐ Change engine lube oil. (See engine owner's manual.)
- ☐ Renew engine lube oil filter element.
- ☐ Clean primary and secondary fuel filters, renew primary filter element, bleed fuel lines.

## SECTION 8

8.2 ROUTINE MAINTENANCE

## 8.2.6 ELECTRICAL SYSTEM

☐ MONTHLY

- ☐ Check the electrolyte level in the battery and fill with pure distilled water if required.

☐ TWICE EACH SEASON

- ☐ Remove, clean and retighten battery terminals.
- ☐ Clean battery surfaces with a solution of baking soda.
- ☐ Apply coating of petroleum jelly to battery terminals.

## 8.2.7 STEERING SYSTEM

Maintenance of the steering system should be in accordance with the manufacturer's instructions that were provided at commissioning. Basically, the requirements are as follows:

☐ MONTHLY

- ☐ Oil sheave bearings.

☐ QUARTERLY

- ☐ Rotate the cover over the rudder stock to expose the top of the rudder stock.
- ☐ Install the emergency tiller and check its operation.
- ☐ Remove the emergency tiller and reposition the cover over the rudder stock.

☐ ANNUALLY

- ☐ Check and oil the steering cable.
- ☐ Check and oil the roller chain.
- ☐ Check and grease the pedestal shaft bearing.



## SECTION 8

8.3 LAYING UP

The most common reason for laying-up a yacht is for winter storage in cold climates. The following paragraphs are oriented to that purpose, but the procedure will also be of value, with winterizing procedures omitted, if it becomes necessary to lay-up the yacht for an extended period in a warm climate.

The tendency to close up and abandon a yacht at the end of the season, without proper laying-up procedures is a practice that should be avoided. Improperly winterized equipment can result in expensive repair bills and needless delays at the beginning of the new season. In addition, accumulations of gear left in a poorly ventilated yacht can either corrode or generate a bumper crop of mildew. The owner must ensure that proper lay-up procedures are performed if the yacht is to be ready for recommissioning at the end of the lay-up period.

## 8.3.1 BEFORE HAULING

- ☐ Consult engine manual instructions for winterizing the engine. Perform the appropriate in-water steps.
- ☐ If it is intended to disconnect the shaft coupling during haul-out, do so at this time (paragraph 4.4.2.1).
- ☐ Consult the manufacturer's instructions for winterizing any optional or owner-installed equipment. Perform appropriate procedures.

## 8.3.2 AFTER HAULING

- ☐ Wash bottom.
- ☐ Wash topsides, deck, and all other exterior fiberglass surfaces. Wax all except the non-skid surfaces.
- ☐ Remove all sails; follow sailmaker's instructions in regard to cleaning, and store in a dry place.
- ☐ Remove all sheets and lines, clean, store in a dry place.
- ☐ If the mast has been removed from the yacht, remove all stays and shrouds from the mast. Wash the entire stay or shroud assembly, using fresh water and a stiff brush, dry thoroughly, and coil into large non-kinking coils. Store the coils in a dry place. Wash and wax all spars, coil halyards into non-kinking coils, and lash them to the mast. Store the mast either inside or outside with adequate support along its length.



## SECTION 8

8.3 LAYING UP

## 8.3.2 AFTER HAULING (cont.)

- ☐ If mast is to be left in place, remove boom, clean and store as described before; clean shroud/stay end fittings, toggles, etc. using fresh water and a stiff brush; apply a light coating of silicone grease, paying particular attention to the end fittings where they connect to the stays and shrouds.
- ☐ Clean and lubricate all deck hardware that contain moveable parts. Follow manufacturer's instructions on winches.
- ☐ Remove all gear such as books, documents, bedding, PFDs, anything moveable that is subject to rust, corrosion or mildew.
- ☐ Remove all food supplies from lockers and ice chest. Wash out ice chest interior with a weak solution of Clorox. Prop ice chest lid open.
- ☐ Stored batteries should be fully charged, and both positive and negative terminals should be disconnected. The batteries may be either left aboard or stored in a cool, dry place.

**NOTE:** SUB ZERO TEMPERATURES WILL NOT HARM A FULLY CHARGED BATTERY.

- ☐ Close all manual shut-offs for the propane system.
- ☐ Winterize the hot and cold water system in accordance with manufacturer's instructions.
- ☐ Winterize the head system in accordance with manufacturer's instructions.
- ☐ Remove all electronic gear that may require servicing during the winter.
- ☐ Remove fire extinguishers for weighing, checking, and any necessary recharging. If an automatic fire extinguishing system is installed, return the cylinders to the yacht and re-install as soon as possible.
- ☐ If security is likely to be a problem, remove easily stolen items such as compasses and radio transmitters; store in a safe place.
- ☐ If cushions are left aboard, bring cockpit cushions below and place all cushions on edge to encourage ventilation.

## SECTION 8

8.3 LAYING UP

## 8.3.2 AFTER HAULING (cont.)

- ☐ Leave all interior lockers open to encourage ventilation.
- ☐ Ensure that cockpit and deck scuppers are open and free.
- ☐ If the boat is to be covered, ensure that the cover is installed in such a way as to provide adequate ventilation, and that the cover is not permitted to chafe against portions of the hull.
- ☐ If the boat is not to be covered, ensure that mechanisms such as winches and steering pedestals are provided with adequate covers.
- ☐ If the mast is to remain stepped, snub all shrouds and halyards to minimize noise and wear.

8.4 FITTING OUT

Fitting out is the performance of the tasks required to place a yacht into service after a lay-up period. Since it is, in effect, the recommissioning of the vessel, the procedure provided in Section 3 (Commissioning) of this manual should once again be followed along with these additions:

- ☐ Follow the procedure outlined in the engine manual for placing the engine back in service after lay-up.
- ☐ Follow manufacturers' instructions for placing the following equipment back in service:
  - Pressure water system (if installed).
  - Hot water system (if installed).
  - Head system.
  - Steering system.
  - Winches.
  - Other optional systems.
- ☐ If the mast was removed during lay-up, the tuning procedures outlined in paragraphs 3.4 and 3.5 should be performed in addition to the steps in the commissioning procedure.
- ☐ Make a complete inspection of all standing and running rigging. Look for signs of stress or cracking at fittings; evidence of fraying, chafing, kinking; cotter pins secure and taped. Pay particular attention to the wire-to-rope splice on halyards.



## WARRANTY

PEARSON YACHTS are carefully inspected and tested prior to shipment from our factory.

Because of this attention to quality control, our warranty is one of the most effective in the industry.

More important, however, is the knowledge and cooperation you as the owner, and we as the manufacturer, receive from the PEARSON Dealer Organization.

Your warranty is included in your file of ship's papers. Be sure to follow the instructions on filling out and forwarding. You can rest assured that our policy towards your warranty will result in your satisfaction.

### IMPORTANT NOTICE!

UNDER NO CIRCUMSTANCES WILL PEARSON YACHTS WARRANTY A HYDRAULIC ADJUSTER PURCHASED FROM A SOURCE OTHER THAN PEARSON YACHTS. IF THE ADJUSTER IS INSTALLED BY PEARSON DURING THE CONSTRUCTION OF THE YACHT, A WARRANTY COVERING THE INSTALLATION WILL BE SUPPLIED BY PEARSON. SHOULD THE ADJUSTER BE PURCHASED ON A PARTS ORDER AND BE DEALER INSTALLED, THE DEALER WILL GUARANTEE THE INSTALLATION. THE ADJUSTER ITSELF CARRIES ITS OWN MANUFACTURER'S WARRANTY.

RESPONSIBILITY OF THE OWNER

1. Your prompt return of the warranty will help us ensure continued satisfaction. Your dealer will provide you with the required information and will co-sign the warranty. Please return the manufacturer's copy within thirty (30) days after taking delivery of your new boat.
2. Thoroughly check your Ship's Papers file to ensure that all instructions furnished with accessories are included.
3. Your Pearson dealer will competently handle any service problems that may arise. It is essential that you contact him for all warranty matters.
4. When it is necessary to contact Pearson, please address your letters as follows indicating your boat and hull number:

Pearson Yachts Division  
Grumman Allied Industries, Inc.  
West Shore Road  
Portsmouth, RI 02871

Attn: Customer Services Dept.

*Thank you for buying  
Pearson and*

*Good Sailing* 

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