MJM Yachts LLC
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Tel 617-723-3629 Fax 617-723-3629

December 2005

Dear 34z Owner:

Congratulations on becoming Captain and Owner of the world's best built and most fuel efficient yacht of its size. The enclosed copy of the 34z Owner Manual should further contribute to your enjoyment and proficiency afloat.

This manual was created jointly with Zurn Yacht Design, Boston BoatWorks and MJM Yachts. Our experience with the first 27 boats has been incorporated to make this manual as useful and relevant as possible. Keep in mind that there maybe a few variances such as location of the breakers on the panel or the lift switch for the bridgedeck engine hatch. And, from time-to-time we will change specifications in an effort to improve the boat.

When addressing a problem with a specific piece of equipment, this 34z Owner Manual is to be regarded only as a preliminary source of information. The equipment manufacturer's own manual with trouble-shooting procedures, etc. is the primary source and authority.

A National Marine Manufacturer's Association (NMMA) publication *Sportfish, Cruisers, Yachts* accompanies, and forms part of, this 34z Owner Manual. This booklet has many universal handling and operating tips worth reviewing.

This Owner Manual is designed to be a living document, not only for builder updates but for your own use and record. Each boat is provided with a copy of the current Manual organized in a STAPLES "Mini-Ring" type binder that allows you to add pages as needed.

One of the great advantages of purchasing a series-built or semi-custom design is that owners have the benefit of learning from one another. So, with your continued input and comments we can keep adding useful information and helpful hints to this manual.

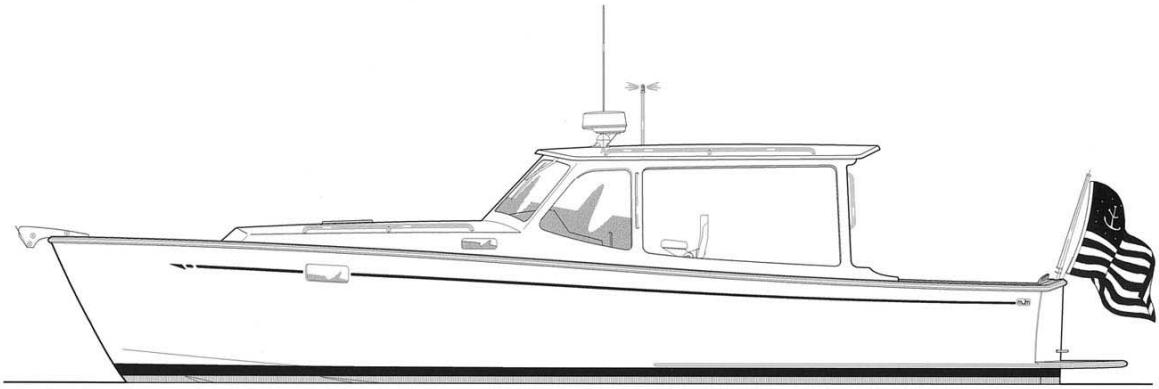
Part of the ISO CE Mark Certification Program is confirmation by the owner that the manual has been received. Please sign the extra page No. 3 included in the Manual as a receipt and return it in the stamped envelope provided.

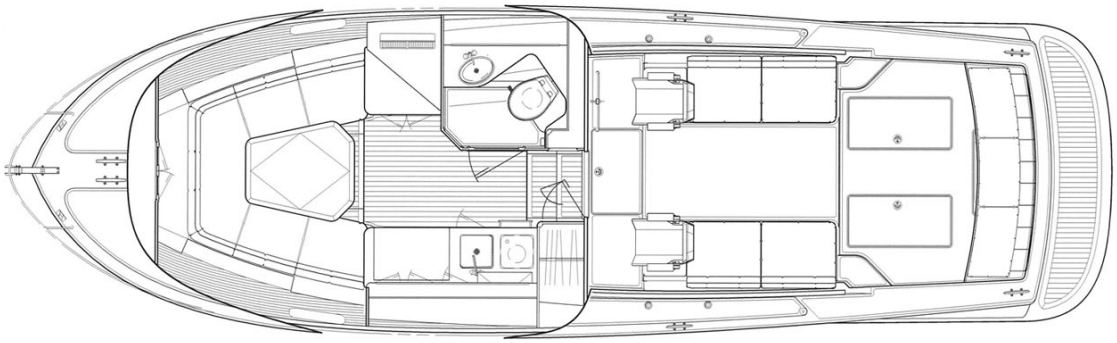
Best wishes for fair winds and sunny skies. On behalf of the builder and designer, we are most appreciative, and I am particularly honored, that you have chosen the 34z.

Robert L. Johnstone
Chief Operating Member

Note: This manual is published in accordance with ISO standard 10240:1995E Small Craft - Owner's Manual

34z OWNER MANUAL





Length Overall		34 ft.
Length Waterline		31.3 ft.
Beam		11.0 ft.
Draft		2.4 ft.
Displacement (1/2 load)		10,600 lbs.
Fuel Tanks (combined)		144 gals.
Fresh Water Tank		55 gals.
Hot Water Tank		10 gals.
Holding Tank		20 gals.
Electrical Service		12VDC, 120VAC (60Hz, Single Phase)
Height over Water (w/ radar)		9.5 ft.
Height over Road (w/ radar on trailer)	Check, as will vary by trailer.	Approx. 13.2 ft.

Note: This manual is published in accordance with ISO standard 10240:1995E Small Craft - Owner's Manual

BOAT INFORMATION

BOAT

MODEL:	34z Downeast
HULL SERIAL # (HIN):	
DESIGN PATENT:	Patent No. US D475.338S (3Jun03)
DELIVERY DATE:	
REGISTRATION #:	

ENGINE

MAKE:	Yanmar
MODEL:	6LY2A-STP 440HP
SERIAL #:	
Mack Boring 24 Hour Service	1-800-622-5364

TRANSMISSION

MAKE:	ZF
MODEL:	280-A
SERIAL #:	
RATIO:	2.0:1

PROPELLER

MAKE:	ACME
BLADES:	4
DIA./PITCH:	22x27
OTHER:	Right Hand

MJM YACHTS, LLC

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NAVAL ARCHITECT

NAME:	Doug Zurn
FIRM:	Zurn Yacht Design
PHONE:	781-639-0678
ADDRESS:	89 Front St., Marblehead, MA 01945

LICENSED BUILDER

NAME:	Boston BoatWorks, LLC
CONTACT:	Scott R. S. Smith
PHONE	617-561-9111
MOBILE	207-252-7190
FAX	617-561-9222
EMAIL	scotts@bostonboatworks.com
ADDRESS	256 Marginal St., Boston MA 02128

DEALER

NAME:	
PHONE:	
ADDRESS:	

CE CERTIFICATION

CERTIFICATE NO.	BBBW001 (30Sept03)
AUTHORITY:	International Marine Certification Institute
ADDRESS:	Rue Abbe Cuypers 3 B-1040 Bruxelles, Belgique
PHONE:	+32-2-741-2418
WEBSITE:	www.imci.org
CLASSIFICATION:	CE Mark Design Category B Offshore Under 12m Small Craft (EC Directive 94/25/EC) for craft designed for offshore voyages where conditions up to and including wind force 8 (Beaufort Scale) and significant wave heights up to and including 4 m may be experienced.

CAPACITY

PERSONS:	Maximum 10, or 750 kg
PERSONS/GEAR:	Maximum 1175 kg

RECEIPT BY OWNER

In compliance with ISO 10240:1995(E) the owner hereby certifies receipt of this manual and has read and agrees to the terms of the Builder's Limited Warranty included herein.

_____
Signature

Printed Name Date

_____
Boat Name Hull #

_____
Address

_____
City, State, Zip

_____
Tel.

_____
Email

NOTE: PLEASE SIGN ONE OF THE TWO COPIES OF THIS PAGE AND RETURN IT IN THE ATTACHED STAMPED ENVELOPE TO: MJM YACHTS at 89 Pinckney Street, Boston MA 02114.

⚠DANGER Denotes an extreme intrinsic hazard exits which would result in high probability of death or irreparable injury if proper precautions are not taken.

⚠WARNING Denotes a hazard exists which can result in injury or death if proper precautions are not taken.

⚠CAUTION Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injury or damage to the craft or components.

TABLE OF CONTENTS

CHAPTER 1 OPERATION

1.1 GENERAL

This manual has been compiled to help you operate your yacht with safety and pleasure. It contains details of the yacht; the equipment supplied or fitted, its systems, and information on its operation and maintenance. Please read it carefully, and familiarize yourself with the yacht before using it.

If this is your first yacht, or you are changing to a type of yacht you are not familiar with, for your own comfort and safety, please insure that you obtain handling and operating experience before assuming command of the yacht. Your dealer or yacht club will be pleased to advise you of local schools, or competent instructors.

PLEASE KEEP THIS MANUAL IN A SECURE PLACE, AND HAND IT OVER TO THE NEW OWNER WHEN YOU SELL THE CRAFT.

This Owner's Manual is not intended to be a course in boating safety, boat handling, navigation or general boating skills. It is the responsibility of the user to independently gain these skills. Instead, this manual will serve as a reference for matters specific to the 34z. Standard options are included in the manual with which your particular yacht may or may not be fitted. Custom options are addressed in an addendum.

1.2 QUICK START GUIDE (See CHAPTER 16)

A separate "Quick Start Guide" is included that briefly reviews the key items to check before departure. Please review the topics in this manual before relying on the checklist – it is simply an "at-a-glance" sheet to insure that you don't overlook anything important.

1.3 OPERATING PROCEDURES – ENGINE INSPECTION

To access the propulsion system, the bridge-deck must be tilted up. The procedure is as follows:

⚠CAUTION Make sure personnel and equipment are clear of any moving parts before operating.

- Turn ON house battery switch (located in the companionway step)
- Turn ON DC main disconnect breaker & engine hatch breaker at the DC panel
- Slide and secure helm seats all the way aft (so they don't contact the wheel and navigation station)
- Remove the backrest cushions
- Activate the lifts with the small black toggle switch over the starboard cockpit step
- When the bridge-deck nears the hardtop, STOP and attach the four-part safety tackle. (This also serves to raise the hatch if you lose power.)

1.4 NAVIGATION

The builder installed navigation system option generally includes autopilot w/compass, depth-sounder, chart-plotter, and radar. Modern marine electronics are a subject unto themselves and you should refer to the manuals that came with the equipment you purchased. However, here are a few points to consider:

- If you are unfamiliar with navigation, educate yourself before using the boat. *Electronic equipment is NOT a substitute for navigation skills.*
- It is not recommended to rely solely on electronic charts- bring paper chart back-ups.
- Depending on your chart-plotter, it may be necessary to power up the depth-sounder prior to the chart-plotter.

- It is prudent to check (or have checked) your compass alignment once the boat is in your primary area of operation. See the Ritchie instructions for compensation.
- Check that all equipment is functioning, even if you intend not to use it.
- Radar functioning and properly aligned (Double-check when underway) See manual to adjust, tune and operate.

Compass Heading & Calibration
There are 3 heading references for navigation on the 34z: (1) The compass on the dash, (2) Autopilot fluxgate compass, and (3) GPS COG (Course Over Ground). All of these headings should be within a degree or so of each other. If not, it is recommended that differences be recorded on a deviation card after following the calibration method outlined below or employing the services of a compass adjuster. Use COG as the primary reference at a time when you are not influenced by wind/wave/tidal set. The fluxgate compass sensor is located on the forward bulkhead of the hanging locker and is accessible by removing the bottom drawer under the galley. *Avoid storing steel or iron items such as tools in the bottom drawer, in the bottom of the hanging locker or under the companionway treads.*

Ship's Compass Calibration Method
1) With the compass in its intended position, but not finally secured, select a course on your chart using two identifiable marks, buoys or landmarks that are within ten degrees (10°) of the north/south line. Try to select this course so that you can maneuver your boat "down range" of the marks selected.
2) From a position down range of the North/South marks, and keeping the marks lined up, run the boat visually along the northerly course selected. Turn the port/starboard compensator until the compass reads correctly.
3) Reversing direction, run the boat southerly, again keeping the marks lined up. If the compass is not correct at this time, there is an alignment error. To correct, rotate the compass itself to remove one half of this error. Repeat Steps 1 and 2 and then recheck this Step 3.
4) Simply repeat the procedures of Steps 1, 2 and 3, except this time, using an east/west course and the fore/aft compensator, although at this time any alignment error should have been eliminated.
5) Upon completing the procedure, secure the compass in its final position.

Boat Speed Boats equipped with the Raymarine C120 plotter and the optional High Definition Fishfinder fairing block with paddlewheel sensor (located in aft port cockpit locker) have the capability of reading Boatspeed through the water and Water Temperature. SOG (Speed Over Ground) is displayed by the chart-plotter. Eventually, you will learn to approximate boat speed through the water by relating it to RPM on the tachometer. For instance, boat speed in knots is about 70% of RPM in 100's (1200 RPM = 8.3 kts) below 20 knots. Or at higher speeds RPM/100 is approximately mph.

1.5 TOWING

Refer to the included NMMA publication "Sportfish, Cruisers, Yachts – Owner's Manual" for towing instructions.

1.6 HAULING OUT

A facility that is unfamiliar with the 34z may require information before hauling the boat with a TraveLift or crane & straps. Refer to Figure 14.10 included in this manual. The keel (centerline of the boat) and chines (edges) are solid fiberglass and should be used to position weight bearing supports. You will note that the fore and aft lift points are located pretty much at either end of the pilot house.

⚠ CAUTION Point loading flat areas other than centerline and chine or setting the weight of the hull on supports of insufficient area may result in damage to the hull.

CHAPTER 2 SAFETY EQUIPMENT

2.1 GENERAL

Spend time reviewing where your safety equipment is and how it functions BEFORE you need it. Remember, the best way to protect yourself and others from accidents is to eliminate potential causes of accidents before they occur. Good seamanship and common sense go a long way in this endeavor. [See Figure 14.1]

Here is a safety checklist derived in part from the USCG Vessel Check List. State Regulations may vary:

PFD's
A wearable USCG approved personal flotation device (life-jacket) must be provided for each person aboard. On the 34z, these can be types I, II, III or V. Also, one type IV throwable PFD must be immediately available for use.

Children under 13 years of age are required to wear a USCG life jacket that fits when underway unless they are in an enclosed cabin or belowdecks.

Visual Distress Signals (VDS)
You must carry VDS's aboard. If operating between sunset and sunrise, they must be suitable for night use and be within the age dates marked on the side of the flares. A minimum of 3 day/night use combination pyrotechnic flares are required. For a list of USCG approved devices, see the USCG recreational checklist.

Fire Extinguisher
In addition to the automatic fire suppression system fitted in the engine space, you are required to carry at least one type B-1 extinguisher aboard, which is located outboard of the port helm seat. This should be checked regularly.

EPIRB
Especially if operating offshore, an EPIRB (electronic position indicating radio beacon) is recommended.

Ships Papers & Registration
You should carry the vessel's registration papers and number plate

Pollution Regulation Plaques
5"x8" Oil Discharge Plaque and a 4"x9" Waste Discharge Placard should be fixed were visible.

Charts & Light Lists
Charts, light lists and a USCG required copy of the Inland "Rules of the Road" Navigation Rules

Horn or Whistle
Recommended to signal intentions or signal position. For instance, when in a narrow channel or the Intracoastal Waterway: To signal which side of another boat you will pass on, blow **1 blast** if you are passing to their starboard side and **2 blasts** if passing on their port side..

Life Raft
If you plan to be coastal cruising out of sight of land, it is prudent to carry a Coastal Life Raft which come in compact sizes that can be stored in one of the aft cockpit lockers.

Heaving Line
These floating lines are available and handy to have ready in case of emergency or to simply trail behind the boat when swimming, .with the end attached to one of the stern cleats.

First Aid Kit

Not a place to scrimp. It is advisable to carry a good, comprehensive, and well-organized (by injury) marine first-aid kit with manual. We recommend that it be stored in the head and that everyone onboard be informed of its location. (Remember, you may be the one in need of it!)

2.2 ENGINE

Fuel shut-off valves are located on top of the fuel tanks and are accessible via spin-off deck plates mounted by the cockpit steps [*see fuel system section*]. It is highly recommended that you open these from time to time to insure that they have not become stuck. Make sure you know how to shut off the fuel valves. (When the handle is perpendicular to the hose, the valve is closed.) In case of a fuel fire, STOP any machinery and close the valves to cut the supply of fuel to the fire. If you should ever see fuel in the bilges, turn off the valves, clean the bilges, and find the source of the leak immediately.

2.3 FIRE

Fire aboard a boat is a serious matter, and fire safety begins with fire prevention. You can reduce the risk of fire by following common sense guidelines:

- Do not allow debris to collect in bilges or machinery spaces.
- Understand your electrical system, allow only qualified marine electricians to work on it, and shut down as many circuits as practical when leaving the boat. Do not leave appliances running while unattended.
- Have your fire suppression equipment inspected regularly and learn how to use it.

An automatic fire suppression system is installed on every boat in the engine space. It is heat activated. Read the information that comes with the equipment. The system can also be manually activated at the helm station. [*See Helm Console Section*] Because a diesel engine would evacuate the suppression agent from the affected space, the system will shut down the engine (and generator) when it discharges. If manually activating the system, the engine should be shut down first. After the situation has stabilized, the shut-down feature can be over-ridden to restart the engine. A loud warning alarm will sound when the system has been activated.

There is a hand-held fire extinguisher mounted outboard of the port helm seat. It is rated to fight type A, B & C fires. Periodically check that this extinguisher is fully charged.

To extinguish a fire, the most effective method is to cut the source of fuel to the fire. In the case of a diesel fuel fire, the fuel tank valves should be closed. In the case of an electrical fire, the main battery switches or main disconnect breakers should be turned off. Fire needs oxygen to burn, so if a fire should occur in an enclosed area, the best course of action may be to exit the area and seal it from the outside by closing all means of air intake.

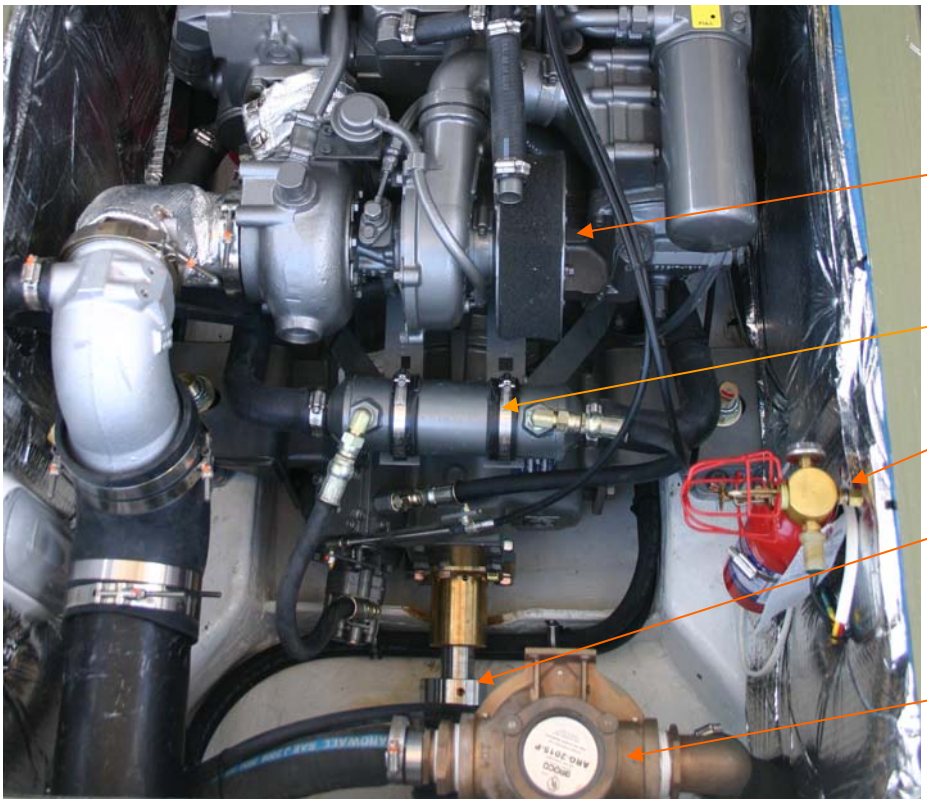
CHAPTER 3 PROPULSION SYSTEM

3.1 GENERAL

The 34z is propelled by a diesel engine turning (via a transmission) a standard, four-blade propeller. The single-lever control acts as a combination throttle and gear selector. Care should be taken when shifting. Always allow the transmission to engage the new gear before throttling up.

⚠WARNING The engine should never be running when swimmers are near the boat.

Most of the propulsion system is accessed by tilting the bridge-deck (using the electric lifts).



3.2 COOLING

Your engine passes seawater (raw water) through a heat exchanger where it cools the engine's coolant. This coolant is circulated through the engine and returns to the heat exchanger. For the engine to keep cool, it must have an adequate supply of raw water and coolant. Before starting the engine, the raw water intake seacock should be checked, the strainer visually inspected, and the coolant level checked. Coolant should be visible in the plastic reservoir just forward of the engine. (If it is not, remove the filler cap and check the level there.)

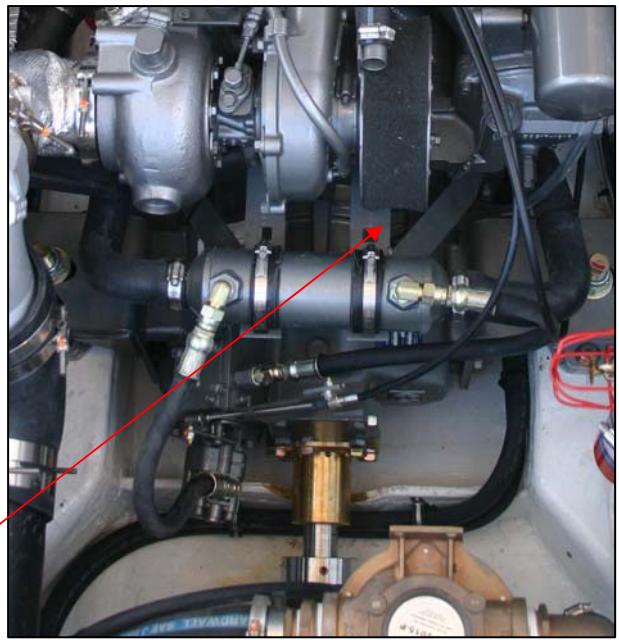
⚠CAUTION Do not attempt to remove the coolant cap of a hot engine.

For details on what type of coolant to use, consult the engine operator's manual or the maintenance schedule included in this manual. It is recommended to check the raw water flow after starting the engine by glancing at the exhaust outlets in the transom. Water should be mixing with the exhaust gases and exiting the boat in noticeable surges.

3.3 LUBRICATION

Both the engine and transmission use oil for lubrication. The transmission will tend to use less oil than the engine, but both should be checked frequently. For the proper type of oils to use (which may depend on the service area and conditions) consult the maintenance schedule below.

The engine oil may be checked on either side by pulling the yellow dipstick on the port top of the engine or the short dipstick shown in the middle picture below (the shorter one provides more accuracy). The transmission dipstick is red.



Transmission Dipstick under Bracket on ZF 280-A 2.0:1 Transmission (Looking Forward)

3.4 ZINCS

In addition to drive shaft, bow-thruster and transom zincs, pay close attention to the engine zincs. See pages 35 & 36 of the Yanmar Manual. The timing for replacing of the 5 anticorrosive engine zincs varies depending on the characteristics of the seawater, the amount of electrical current in marinas, or could indicate (if excessive wear is noted) an electrical short on the boat, etc. Inspect these periodically at the time of oil changes and remove the corroded area on the surface, replacing them when they've deteriorated to less than 50% of original size. Otherwise corrosion of the seawater cooling system will occur and water leakage or parts breakage will result. Be sure to close the Kingston (raw seawater) cock before removing the plug to replace a zinc.

Freshwater Cooler (2 zincs) (Port Forward Corner)

Engine Lube Oil Cooler (2 zincs) & 2nd Oil Dipstick (Starboard Forward)

Intercooler (1 zinc) (Starboard Side Aft)

3.5 AIR

Diesel engines use a large quantity of air for combustion. The engine of the 34z gets this air thru grills under the cockpit coaming, both port and starboard. It is important to keep these intakes clear and free of foreign matter. Before entering the engine, air passes thru a foam air filter which should be checked at intervals per the maintenance schedule.

3.6 PROPELLER

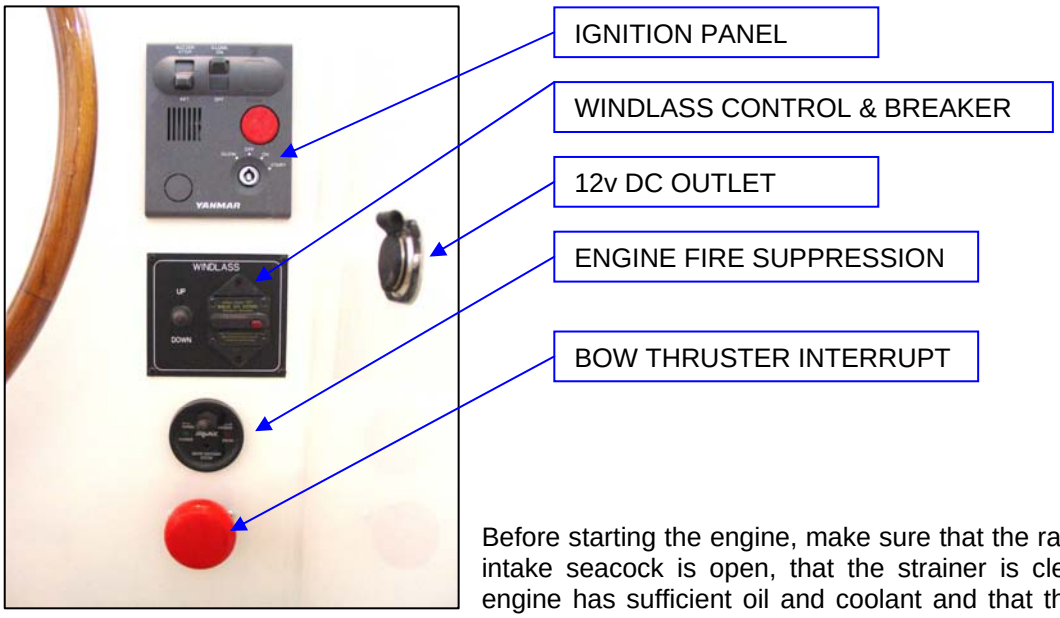
The 34z uses a right-hand or left-hand propeller, depending on the customer's preference. The primary difference is in boat handling characteristics at low speed, especially in reverse. A right-hand prop will tend to pull the stern to port when backing. The same transmission is used for either prop and is factory set for the orientation of your propeller. This is easily changed if you should ever decide to switch propeller orientation.

3.7 SHAFT SEALS

The prop shaft exits the boat just aft of the transmission. The seal that keeps water from entering the boat is drip-less. It is not uncommon, especially while breaking-in the seal, to see some temporary dripping. After this period though, the seal should remain virtually dry. The tube attached to the seal provides a raw water supply for cooling.

⚠CAUTION Be sure shaft seal collar is secured to shaft with doughnut shaped zinc in front of it. If the collar slides forward there is a risk of significant water ingress.

3.8 STARTING



Before starting the engine, make sure that the raw water intake seacock is open, that the strainer is clean, the engine has sufficient oil and coolant and that there are no restrictions to the air intake grills. Check that the fuel selector switch is in either the PORT, STARBOARD, or BOTH position. Also, the throttle must be in the neutral position. Insure that no one is in the water near the boat and that all machinery space hatches are closed. Check the state of the batteries to insure that there has not been an unexpected drain. Make sure the battery selector switches for the engine start bank and the house battery bank are both ON. Turn the key to ON and note the fuel level gauges. Then, turn the key to the START position (all the way to the right) and hold it there until the engine runs. If the starter is audibly working, but the engine fails to fire, do not hold the key in the START position for more than 10 seconds as damage to the starter may result and the battery may become discharged. Consult the operator's manual for troubleshooting recommendations.

Note: the transmission has a neutral safety switch that prevents the engine from starting in any gear but neutral. If the throttle control appears to be in neutral but the engine will not crank, one possible reason is that the neutral safety switch is calibrated incorrectly. This should be checked after it is verified that the engine start battery switch is ON and that it has proper voltage. Also check the engine manual for troubleshooting procedures.

3.9 STOPPING

Before shutting down the engine, allow it to cool down by idling in neutral for 5 minutes. Then, press and hold the red button on the engine panel until the engine comes to a complete stop. Make sure to turn the key to the OFF position after the engine stops so that the engine hour meter stops. Note that if the key is switched OFF before the red button is pushed, the *button will not shut-down the engine*.

3.10 RUNNING

The Yanmar 6LY2A is rated at a maximum RPM of 3400. Running the engine at full throttle is not recommended for extended periods of time. Yanmar claims that the engine can be run “all day” at 200 RPM under the max RPM. At 2800 RPM, you should be cruising at 24-26 knots, depending on load, wind, etc. It’s whatever seems comfortable considering conditions. While running, pay attention to the instrument gauges on the dash console. A significant change in temperature, oil pressure, or voltage should be investigated immediately, before the engine is damaged.

3.11 THROTTLE CONTROL

The single-lever control to the starboard side of the console governs both the throttle and shifting functions. It is important to allow the transmission to engage into forward (or reverse) before throttling up. The boat utilizes a powerful propeller with a large rudder immediately behind. It is uncommon in docking situations to ever need more than a short, momentary forward or reverse thrust.

Crabbing Sideways: Since there is more directional response with the helm hard over in forward than in reverse, due to the prop wash bouncing off the rudder, it is possible in combination with the bow-thruster to crab the boat sideways for an eggshell landing. For example, to move the boat sideways to starboard from a dead stop: Turn the wheel fully to port. Give the throttle a short burst FWD for 1-2 seconds. The stern is pushed to starboard. To keep the boat parallel with the dock, or another boat you are rafting up to, tap the bowthruster to STBD. If the boat starts sliding forward, give it a touch of reverse to hold station. Repeat process above several times. *This is a skill that is best practiced in open water before attempting docking maneuvers.*

To increase RPMs in neutral, you must have the lever in the neutral position and then pull the handle outboard, then advance it forward while it is out of gear.

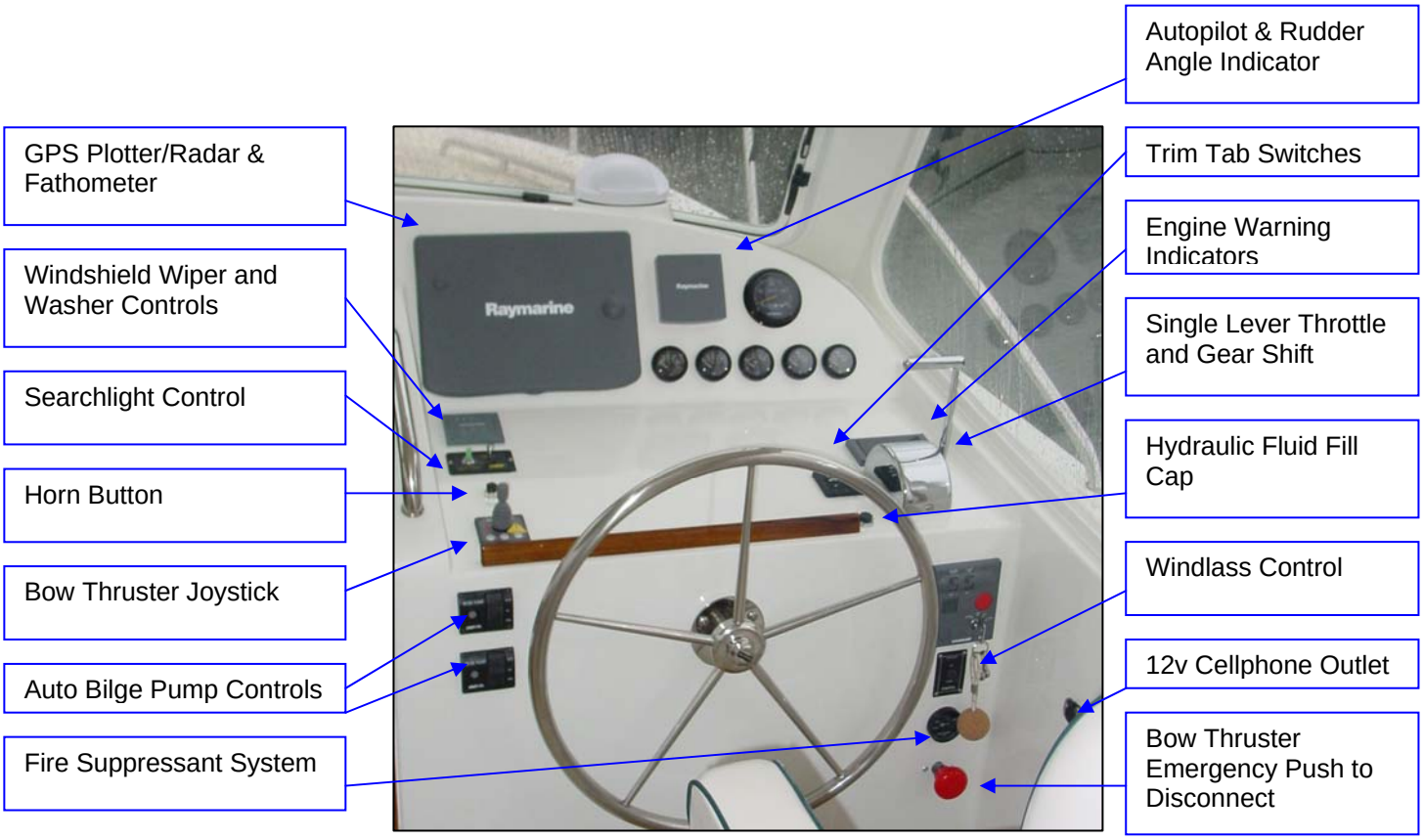
3.12 INSTRUMENT GAUGES

The engine instrument gauges provide you data on the status of the engine. They are powered via the ignition switch and will not display data when the key is in the OFF position. The tachometer allows you to monitor the RPM of the engine. It is common and efficient to cruise at 85% of the rated maximum RPM, or 2800 RPM. For acceptable ranges of temperatures and oil pressures shown in other gauges, consult the engine’s operator’s manual.

CHAPTER 4 STEERING CONTROL SYSTEM

4.1 GENERAL

The helm control console is where most of the operation controls of the boat are located. Become familiar with these before you need to use them. You don't want to be looking for your glasses and a flashlight while trying to turn on the bow-thruster at night! In addition, make sure that when you are using the boat, even if you are not using a specific piece of equipment, that the circuit breakers are on for any equipment you *might* need. Again, you don't want to be searching for a breaker when you need something in a hurry.
Some of the instruments on the console are powered by the ignition switch and will not function without the key in the ON position, much like a car.



4.2 STEERING

Steering of the 34z is a manual hydraulic system. The helm that you control at the console turns a pump, which drives hydraulic steering fluid to the cylinder, mounted aft by the rudderpost. The cylinder drives a piston that is attached to the tiller arm, which is keyed to the rudderpost. [*see steering system*] Unlike an outboard engine, the thrust of the propeller cannot be directed from side to side. Turning forces are created by passing the propwash over the rudder. Low-speed maneuverability feels different than an outboard boat, especially in reverse. Refer to the steering equipment manual for instructions for purging and troubleshooting the hydraulic steering system.

4.3 BOW-THRUSTER (Optional)

If fitted, a bow-thruster can be used to greatly increase the maneuverability of the boat at slow speeds in tight quarters around docks and slips.

⚠CAUTION Passengers on the foredeck are at risk if the thruster is engaged without their prior knowledge.

Consult the user's manual for specifics about your thruster. In general, thrusters are best used in short bursts. Prolonged use may damage the motor, or at least trip the breaker. When not in a situation where the thruster may be necessary, leave it turned OFF to avoid damage. Consider the fact that your thruster gets DC power from the engine start battery, which is charged by the engine's alternator. If the engine is not running, or running at idle, the thruster can consume more energy than the alternator can provide. *It is possible to discharge the battery by over-use of the thruster.*

Turn on the bow-thruster by holding down the two left buttons (or turning the switch to ON with some models) until the activation light appears. If the light does not appear, check to see that the large red knob for the bow-thruster circuit breaker (below ignition panel) is pulled out.

⚠CAUTION When operating the bow-thruster, allow the propeller to come to complete stop before reversing direction. Failure to do so may result in damage to the shear pin.

⚠CAUTION The bow-thruster zincs should be checked periodically and replaced if significantly worn.

4.4 TRIM TABS

While trim tabs are not necessary on the 34z, which runs at 3-5 degree angles, they do come in handy to fine-tune the trim and running angle of the 34z. The trim tab breaker on the DC panel must be ON for the unit to work. The trim tabs are wired intuitively, so by pushing down the starboard tab, the bow leans down to starboard. (Actually, the port tab is going down to lift the port aft corner of the boat).

Trim tabs aren't necessary at low or high speeds. They are useful in lowering the bow for better visibility or for slicing through a small chop at moderate speeds. At higher speeds when the boat naturally runs flatter and when running downsea into the back of waves, it's advisable to raise the trim tabs for dry running and control, allowing the bow to lift.

Lenco trim tabs are powered by DC electricity on Hulls #5 and higher. On hulls #1 through #4 Bennett trim tabs operate by supplying DC electric power to a hydraulic pumpset, located aft by the steering quadrant under the aft cockpit hatch. The level of hydraulic fluid should be periodically checked in the clear reservoir.

4.5 AUTOPILOT OPERATION (Optional)

The Autopilot/Depth breaker (on the DC panel) must be ON for the autopilot to function. Check the autopilot display and note the rudder angle indicator which helps in maneuvering the boat. When the compass heading is displayed on the autopilot it is operational and can be activated by pushing AUTO. The boat will then maintain the displayed heading. Push +1 or -1 for one degree course corrections or +10 or –10 for ten degree increments.

⚠CAUTION The autopilot system is part of the hydraulic steering system. DO NOT turn the wheel when the autopilot system is ON. Push STANDBY to switch back to manual steering.

4.6 WINDSHIELD WIPERS

The 34z is fitted with two windshield wipers. For specific instructions, refer to the user manual.
The wash feature is connected to your boat's freshwater system and requires that the system be pressurized (i.e. that the freshwater pump is ON). If the wipers are to be used in sub-freezing temperatures, a separate system must be installed which utilizes anti-freeze.

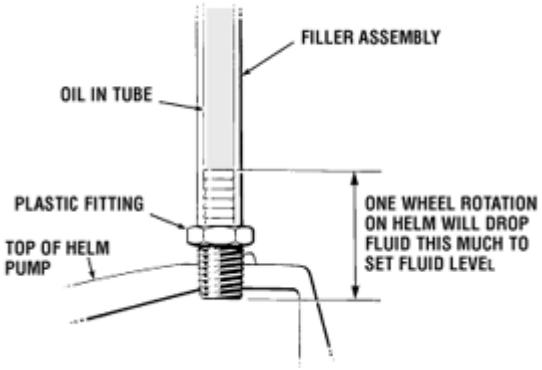
4.7 SEASTAR HYDRAULIC STEERING

With a hydraulic system that allows both the wheel and the autopilot to move the rudder, there are some unique requirements. For more information log onto www.seastar.com or email the technical service department at info@teleflex.bc.ca or contact the nearest distributor or Rose Marine at 978-283-0293 in Gloucester MA.

Oil Level and System Check

Even though the Seastar system is supposed to be self-bleeding to purge any air, *check the level of hydraulic fluid weekly,* by unscrewing the filler cap on the helm console above the wheel. If you don't see fluid, add more Seastar hydraulic fluid.

There is a central hydraulic reservoir & helm pump mounted just under this fill cap mounted on top of the piloting console forward of the wheel. It supplies the entire system.



With the filler hose still screwed into the filler cap, CHECK the steering system for proper connections of hose, tube and fittings, possible leaks, and air removal. To do so, turn steering wheel and pressurize very hard to port. Apply enough force to the wheel to exceed pressure relief valve pressure. You will not harm the helm or the system. While pressure is maintained on the steering wheel, check all port (left) fittings and line connections. Repeat procedure by turning wheel to starboard. Watch the oil level in the helm pump when pressurizing the steering wheel in either hard over positions. If there is no obvious drop in oil level, air has been removed. If there is an obvious drop in oil level, you are compressing air and further filling and purging is required. Repeat Steps 1 thru 5. If no leaks are obvious, your steering system is ready for use. If leaks are found, correct before using. Failure to correct a leak can lower oil level in system and result in loss of steering.

Suggested 34z Procedure

1. Screw the plastic filler hose (found in a galley drawer) into the filler cap's socket before connecting it to the Seastar plastic bottle.
2. Loop the hose over 180 degrees that's now sticking out of the filler gap, so that the bottle can then be turned under the cap to screw it on.
3. While keeping the bottle nearly upright, squeeze about 4 inches of fluid into the tube and turn the wheel full starboard then full port quickly, to release any air bubbles and to refill to within ¼" of top.
4. If the steering feels jerky or strange, there maybe air trapped in the cylinder attached to the rudder post. (Read the "Fill & Purge" instructions below) but this can usually be solved by quickly bleeding the valves on top of the cylinder, using the discharge hose that connects the two bleeding valves to empty oil into a container.
5. Have a helper move the wheel with a couple of short jerky motions to be sure all air is bled. Then go back to step one to refill the reservoir. The Raymarine Autopilot has a rudder angle indicator that is helpful in knowing whether the rudder is doing what it should.
6. If you have had to add a significant amount of fluid, be sure to (a) check for leakage and a tight fit at all hose connections and (b) check once again for fluid level after operating the autopilot for a short period of time to be sure that no air has been trapped in that part of the system.

Oil Level Set

Proper oil level set can be obtained by opening bleeder and turning steering wheel until fluid level reaches top of plastic filler fitting and then turning wheel one more full turn.

As indicated in applicable diagram in step 5 below.

⚠CAUTION For unbalanced cylinders the oil level in the helm must be set with the cylinder rod fully retracted. Failing to observe this caution will result in an oil spill at the helm.

Turning the wheel port (left) will retract the cylinder rod.

Filling & Purging the SeaStar System

This procedure requires two people. One person may not be able to remove all the air from the system which will result in spongy, unresponsive steering.

During the entire filling procedure, oil **must** be visible in the filler tube. **Do not** allow the oil level to disappear into the helm pump, as this may introduce air into the system and increase your filling time

Hydraulic Fluid/Oil Requirements

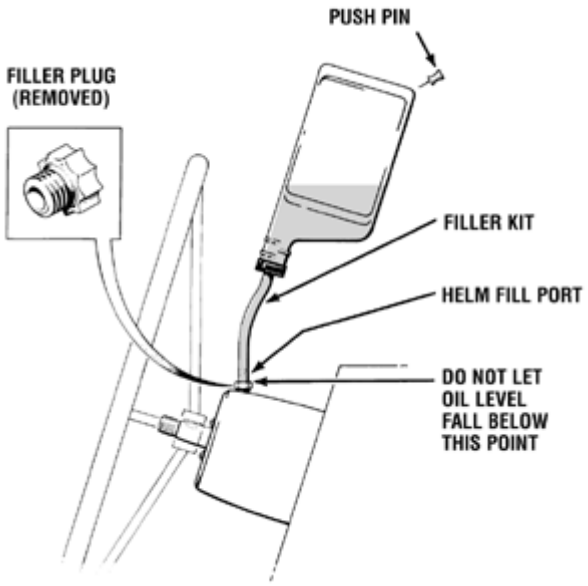
2 bottles (2 quarts or liters) for single station and single cylinder systems.

1 additional bottle for each additional helm, cylinder, or auto pilot.

NOTICE These instructions will result in hydraulic oil flushed in and out of the system. Oil can be reused if filtered through a fine mesh screen such as used for gasoline. If unable to filter oil, an additional bottle of oil is required.

NOTICE "Bleeder" may refer to cylinders fitted with bleed tee fittings or bleed screws. If fitted with bleed tee fitting, open bleeder by unscrewing bleed nipple nut two turns.

If cylinder is fitted with bleed screws, open bleeder by removing bleed screw completely. Loosening bleed screw only, will not cause sufficient oil flow to purge system.



Recommended oils for your steering system are:

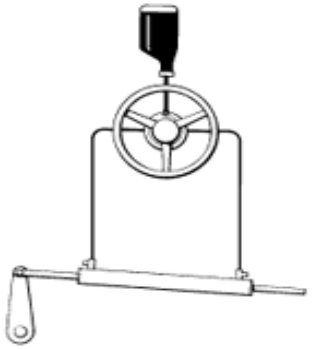
- SeaStar Hydraulic Fluid, part# HA5430
- Texaco HO15
- Shell Aero 4
- Esso Univis N15
- Chevron Aviation Fluid A
- Mobil Aero HFA
- Fluids meeting Mil H5606C specifications.
- Automatic transmission fluid Dexron II may be used in an emergency.
- Never use brake fluid. Any non-approved fluid may cause irreparable damage, loss of steering, and cancellation of warranty.

In cases of extreme emergency any non-toxic, non-flammable fluid may provide temporary steering.

NOTICE **Filling the helm full of oil can be done faster if oil is poured into the helm prior to connecting filler tube and oil bottle to the helm.**

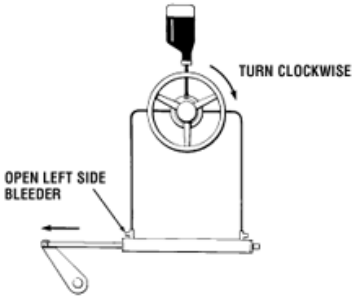
Step 1

- Screw the threaded end of the filler tube into the helm filler hole.
- Remove the cap from the oil bottle and holding upright, screw into the filler tube bottle cap. *Poke hole in the bottom of the bottle if entire bottle is to be used.*
- Fill the helm pump full of oil (Oil should always be visible in the filler tube). Use the next bottle at any time throughout the procedure when the oil level drops in the filler tube. Do not proceed with step two until helm is full of oil.



Step 2

- When air bubbles have stopped coming out of the helm, turn the steering wheel clockwise until the cylinder rod is fully extended on one side of the cylinder.
- Open left side bleeder as indicated on your applicable diagram



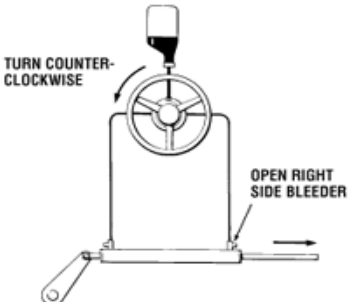
Step 3

- Holding the cylinder rod (to prevent it from moving back into the cylinder) turn the steering wheel counter-clockwise until a steady stream of air free oil comes out of the bleeder. (Drain out approx. 1/2 bottle of oil or as required.)
- While continuing to turn the wheel, close the left side bleeder and let go of the cylinder rod

Step 4

(Steering wheel will come to a stop)

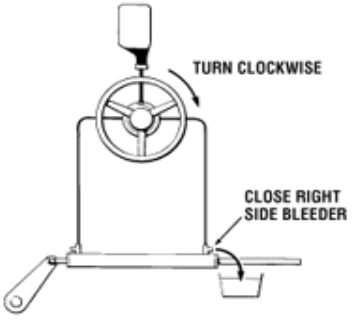
- Continue turning the steering wheel counter-clock wise until the cylinder rod is fully extended at other side of cylinder.
- Open bleeder.



Step 5

- Holding the cylinder rod (to prevent it from moving back into the cylinder) turn the steering wheel clockwise until a steady stream of air free oil comes out of bleeder.
- While continuing to turn the wheel, close the bleeder and let go of the cylinder rod.

Fill and purge is now complete.



CHAPTER 5 FUEL SYSTEM

5.1 GENERAL

It is important to understand the fuel system aboard your boat. Diesel fuel is different than gasoline. In most respects it is safer, however precautions need to be taken to maintain the safety of your boat. Please study the safety precautions in the NMMA publication “Sportfish, Cruisers, Yachts – Owner’s Manual.”

Diesel engines need to intake more fuel than they burn, and so they differ from gasoline engines in that they return excess fuel to the tank. Both feed & return are to the starboard fuel tank.

Hull #23 and higher have fuel tanks which are connected by a “leveling” fuel line with an isolating shut-off shown below. The tanks equalize automatically.

PRIMARY RACOR FUEL FILTER. If your boat has an optional diesel generator, the generator’s smaller Racor Fuel Filter is located next to this one.

HOSE CONNECTION ON TOP OF SEACOCK TO FLUSH ENGINE OR SERVE AS EMERGENCY BILGE PUMP

ENGINE RAW WATER SEACOCK IN OPERATING POSITION.. ⚠CAUTION Do not push handle to floor. Keep at 90 degrees or intake water will be restricted.

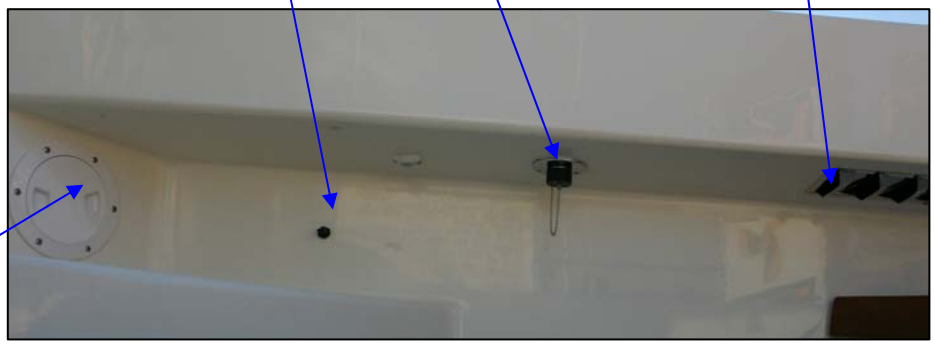
BRIDGE-DECK UP/DOWN SWITCH

PRESSURE WATER OUTLET

ENGINE AIR INTAKE VENTS P&S

CONNECTING FUEL LINE TO LEVEL P&S TANKS & SHUT-OFF VALVE SHOWN CLOSED (NORMALLY LEFT OPEN).

FUEL SHUT-OFF ACCESS PORT (Starboard Side Only)

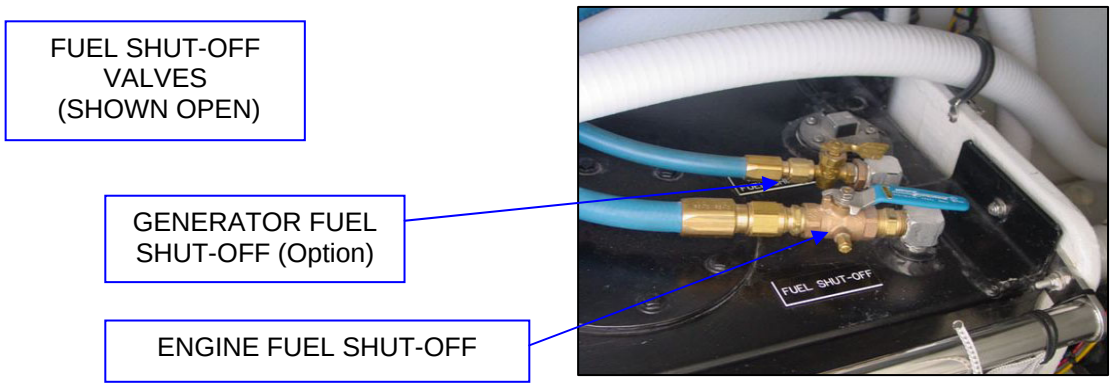


5.2 FILLING THE TANKS

Deck fills are mounted on the side decks, port & starboard, and are labeled “DIESEL.” Each one services only its respective tank, although with the connecting fuel line valve open, you will get some transfer to the opposite tank. As the tank is filled, vapor escapes the tank thru the vent. Overflow is prevented by an in-line fuel/air separator that will not allow fuel to pass. However, caution should be taken while filling. Check the fuel level gauges and listen for the rise in pitch at the deck fill, as fuel reaches the top. Shut off the nozzle immediately. *Do not attempt* to “top off” the tanks. Variations in temperature as well as trim angle could cause overflow or vent-line blockage.

5.3 CHECKING THE SYSTEM

Your engine needs clean fuel to operate. Be sure to buy diesel fuel from a reputable marina. Also, check the primary fuel filter regularly. The primary fuel filter has a clear bowl that will allow you to inspect for water and sediment accumulation. You should be able to see thru the fuel in the bowl at all times. Cloudy fuel indicates a problem. Also, you should not see bubbles passing through the filter while running. This would indicate a leak on the suction side of the fuel system.

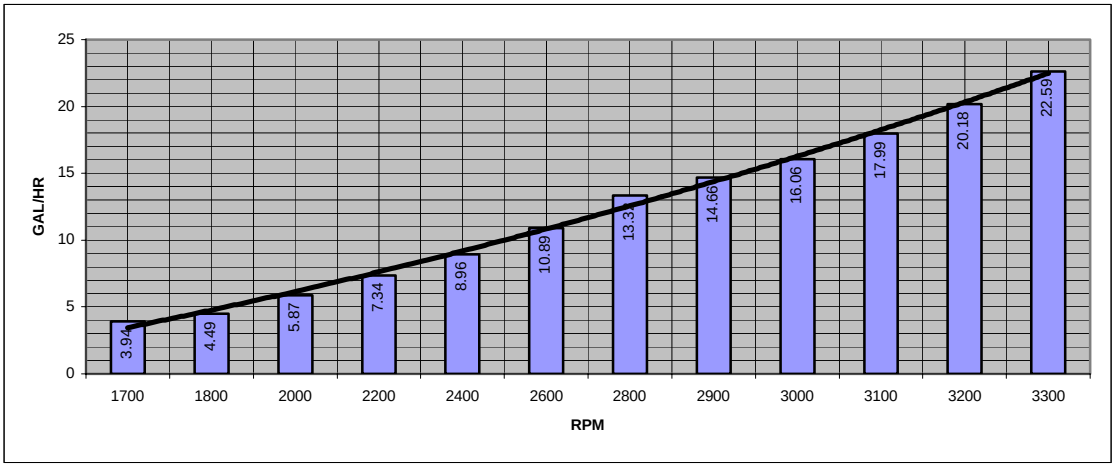


5.4 FUEL CONSUMPTION

To assist you in estimating fuel usage and range, the following table is provided by the engine manufacturer for the Yanmar 6LY2A-STP 440hp, 6-cylinder engine. Yanmar states that these numbers are accurate to within +/- 3%. The actual speed achieved is a function of the weight carried aboard, condition of the bottom (barnacles/slime), prop design, etc. If your top speed is 31 knots (35.7 mph) at 3300 rpm, then the approximate fuel efficiency is 31 divided by 22.59 (from the table below) or 1.4 nautical miles per gallon.

Diesel engines are more efficient when run at about 85% of maximum rpm. The maximum rated rpm of this engine at propeller load is 3450 rpm. If you selected 2500 rpm and realized a 23 knot cruising speed, the theoretical fuel consumption would be 2.3 nm/gal. Using not more than 90% of the 150 gallon fuel capacity, the cruising range would exceed 300 miles. It's advisable keep the accompanying log of engine hours and gallons on each fill-up to best predict fuel usage.

It's rare that the boat is operated constantly at higher speeds. Average recreational fuel consumption between fill-ups on GRACE is generally 4-5 gallons per hour of engine time. The 34z averages better gph figures than shown on the following Yanmar chart.



34z FUEL CONSUMPTION LOG

		Engine Hours			Consumption	
Date	Marina/Fuel Dock	Current	Since Last Fill	Diesel (Gals)	Gals/Hours	COMMENTS

CHAPTER 6 ELECTRICAL SYSTEM

6.1 GENERAL

The 34z's electrical system is probably more advanced than to what you may be accustomed. It combines DC and AC power. An understanding of how the system works will aid you in your ownership.

12 volt DC power is stored in your batteries. This power is replenished either by an engine-driven alternator or by a battery charger converting AC power to DC power. Most of the electrical components on your boat use DC power.

120 volt AC power is what is typically found in homes. It is supplied to the boat in 3 ways: (1) via a shore-power cord plugged into a shoreside receptacle (2) by the optional generator running onboard (3) by inverting DC power from a battery into AC power. The AC components aboard your boat include the cooktop, microwave, flat-screen TV, the air-conditioning, AC water heater, inverter, and receptacles (for use with your own AC equipment).

⚠ DANGER Both AC and DC electrical power sources are potentially dangerous. Do not attempt to work on any part of your boat's electrical system if you are not a qualified marine electrician.

6.2 DC SYSTEM

There are two battery banks on your boat. The house bank consists of (2) 200Ah, absorbed-glass mat (AGM) batteries. The engine bank consists of a single 105Ah AGM battery, and it is used to start the engine and also to run the windlass and bow-thruster. Whenever a charging source is present (either from the battery charger or an engine-driven alternator) *both* banks are automatically charged. AGM batteries are essentially no-maintenance. *Do not attempt to open the batteries*. Other than keeping them properly charged, stored, and clean (especially between the terminals), there is virtually nothing you need to do to them. The battery charger is factory set specifically for AGMs.

If the engine is not running, the batteries can be charged via the battery charger, which is powered by AC electricity either from your generator or shore-power. It is important to read and understand the inverter/charger manual to be sure that the unit is functioning as you expect.

Never allow your DC system's voltage to fall below 11.2 volts. Sensitive electronics may fail to function. For this reason, it is advisable when leaving the boat to turn off all loads, turn off their respective circuit breakers, and turn off the main DC battery switches. The only load that remains on when the battery switches are in the OFF position is the bilge pump circuit. (The CD/DVD also uses a tiny amount of DC power to maintain memory settings.

To use DC components, the house battery bank switch must be ON, the main DC disconnect breaker on the panel must be ON, and the component's respective breaker must be ON. The engine start battery switch must be ON to start the engine, or to use the windlass or bow-thruster. The generator (if fitted) uses the engine start battery, but it has a dedicated battery switch. The engine battery switch needs to remain ON while the engine is running. Likewise for the generator battery switch when it is running.

BATTERY SELECTOR SWITCHES
A 4th Switch will be added if a Generator is Installed

The house battery switch can be left OFF when the boat is not used, and the batteries will still accept a charge from the battery charger. If you are leaving the boat plugged into shore-power and you wish to turn off all DC loads but still be able charge batteries. Leave the house switch ON and turn off the main DC disconnect breaker on the DC panel.

In the event of a dead or weak engine battery, the parallel battery switch can be used to combine the house bank to the engine start bank. All three switches must be ON for this function. This is recommended only as a last resort- if shoreside or genset charging is available, use that to re-charge the start batteries. **⚠ CAUTION** *DO NOT LEAVE THE PARALLEL SWITCH IN THE "ON" POSITION.*

6.3 AC SYSTEM (Optional)

The AC system exists to power such items as a Cooktop, Microwave, Entertainment System, AC Outlets, Air-Conditioning and Water Heater. There are three ways to supply AC power to these appliances/systems [See Figure 14.4]: (1) You can plug one or two 30-amp shore power cords into a shore-power supply, depending on which items you want to power; (2) the generator can be used; or (3) the house batteries can supply DC power to the Inverter which converts it into AC power. The main AC disconnect breakers (top of the AC panel) must be ON for shore-power AC to supply the boat's AC power. There are two AC Breaker Panels: **AC PANEL #1** (forward) includes breakers for those items which can be handled by the Freedom 30 Inverter. To use the inverter, (1) the house battery selector switch must be ON and (2) the inverter breaker on the AC panel must be ON. Refer to the inverter/charger manual for more information

AC PANEL #2 Because your batteries would not last long supplying high amperage water heater or air-conditioning systems, these items CANNOT be powered by the inverter and are therefore isolated on the aft #2 AC Panel which is directly fed by a separate shore power cord that by-passes the inverter.

When the Shore 1 shore-power cable is attached and the Shore 1 select breaker is ON, Shore 1 will supply AC power to AC Panel #1 (forward side of panel). With the inverter ON, the shore-power will override it and the inverter will automatically go into stand-by mode. When the Shore 2 shore-power cable is attached and the Shore 2 select breaker is ON, Shore 2 will supply AC power *only* to AC Panel #2 (aft side of panel) which is for air-conditioning and water heater. If a second shore-power receptacle is not available and you have not operated the boat recently, there won't be any hot water. Simply shift the single cord from the Shore 1 receptacle aft to the Shore 2, flick the hotwater breaker on, wait 15 minutes and your shower will be ready.

If the generator (optional) is being used in lieu of shore-power, the **Transfer Select** switch (on the AC panel) can allow either Shore 1 or the generator to power the AC Panel #2 circuits. However, if this function is utilized, the owner must be aware that using too many AC appliances at once will cause a breaker to blow. Avoid using major appliances simultaneously while using the Transfer feature.

As mentioned, the generator (optional) can be used to create AC power. The generator battery selector switch must be ON and the generator must be selected on the AC panel. Refer to the manufacturer's manual for more information regarding the generator.

INVERTER/CHARGER (Optional)

There are many functions that are fully explained in the inverter/charger manual. Please read it thoroughly for a complete understanding of this unit. The 34z is also supplied with a remote panel that controls the inverter/charger from the AC panel and displays information. This remote panel has its own manual, with which you should become familiar.

Under normal circumstances, the buttons and lights on the inverter/charger unit itself do not need to be used because the remote panel can control most of these functions.

The 34z uses a combination inverter/charger (in a single unit). When a supply of AC power is present (from shore-power1 or generator), the unit can charge both the house battery bank and the engine start battery. The inverter breaker (on the AC panel) should normally be ON. If no source of AC power is available, the inverter can use DC power from the house bank to create AC power, used for items on AC Panel #1. If AC power becomes available, either from shore-power or the generator, the inverter/charger transfers this power to AC panel #1. In other words, your batteries will not be used to create AC power if either the generator or shore-power #1 is active and the inverter breaker is ON.

Inverting
To use AC power when no generator or shore-power is available, make sure the inverter breaker is ON. Push INVERT on the LINK 2000 remote panel. AC power should now be supplied to the forward AC Panel #1, which includes those items which may be run from the inverter alone…although not necessarily all at the same time for very long. The inverter can only be powered by the house bank, but can monitor both the house and engine start banks. When finished using AC power through the inverter push INVERT again to turn off.

On the remote panel, BATTERY 1 selects the house bank of (2) 200 Ah batteries
BATTERY 2 selects the engine start battery bank of (1)105 Ah battery

Charging
Push CHARGE to activate the charger when SHORE POWER is applied to AC Panel #1 or when GENERATOR is on.

Functions
Push VOLTS on the remote panel to read the voltage of the selected battery bank
Push AMPS on the remote panel to read the current flowing into/out of battery selected. When charging it shows a “+” sign.
Push Ahrs on the remote panel to show the amp hours consumed in a negative number. When charging, negative number decreases.
LOBAT shows when 50% of the battery capacity has been used up.

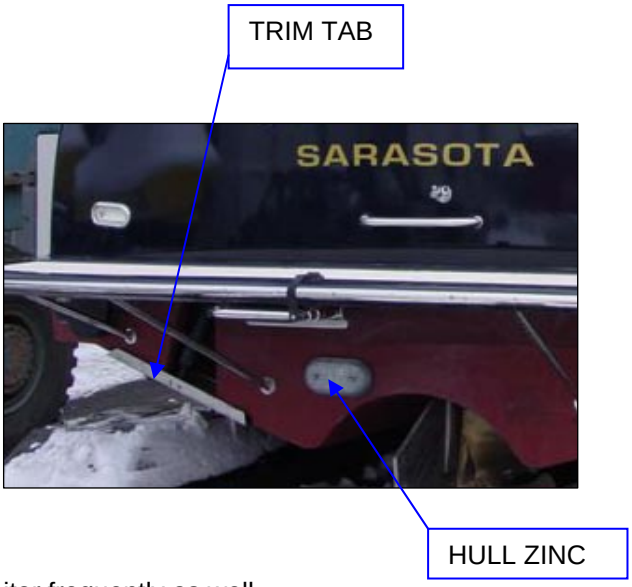
⚠ CAUTION DO NOT LEAVE THE INVERT SWITCH “ON” ON THE LINK 2000 ALONG WITH THE INVERTER/CHARGE SWITCH “ON” ON THE AC PANEL IF YOU ARE NOT INVERTING AS THIS MAY DRAW 10-12 AMPS EVEN IF NO AC DEVICE IS TURNED ON. OR, YOU MAY END UP WITH DEAD BATTERIES (All of them if the Parallel Switch is “On” too.)

6.4 REVERSE POLARITY

⚠ WARNING As a safety precaution, your AC panel is fitted with reverse polarity indicators. If an AC supply were wired incorrectly, either aboard your boat or shoreside, a dangerous shock situation could exist. Normally, the reverse polarity lights should not be illuminated. If they are, disconnect that source of power and alert the appropriate person.

6.5 ELECTROLYSIS & GALVANIC CORROSION

Metallic fittings that are exposed to saltwater are subject to electrolysis and galvanic corrosion. To minimize potential damage, your boat is fitted with a sacrificial zinc at the transom. This zinc is connected to the bonding system of your boat. It should be visually inspected whenever possible and replaced when 1/2 of the zinc has been eroded. Pay special attention to its condition when in new waters and marinas, as environmental conditions affect the rate of deterioration. If the zinc erodes rapidly, current meters can be used to assess possible causes and remedies.



See Section 3.4, there are 5 engine zincs to monitor frequently as well.

6.6 BONDING

The bonding system of your boat connects all underwater metallic fittings to the sacrificial zinc and the boat's negative bus bar. In order for the zinc to protect an underwater part, the connection must be clean and secure. The green wires that make up this system are not normally current carrying.

6.7 ELECTRICAL SAFETY

Please read and understand the important safety precautions included in the included NMMA publication "Sportfish, Cruisers, Yachts – Owner's Manual" concerning electrical safety.

6.8 GENERATOR OPERATION (Optional Westerbeke 5.0 BTBD)

If fitted, a generator can be used to create AC power, which in turn can charge the batteries, run air-conditioning, water heater, etc. The generator starting procedure is as follows:

- Make sure the generator raw water seacock and fuel line are open and that the strainer is clean.
- Check the fluid levels of the generator.
- The generator battery and house battery selector switches should be ON.
- All AC circuit breakers should be OFF
- Using the generator control panel, port side of wheel on the console (see pic), start the generator using the following procedure which is also shown on a plate atop the generator:

PREHEAT: Depress the PREHEAT switch first to activate control system

START: Depress START switch while continuing to depress PREHEAT switch. (PREHEAD also overrides low oil pressure shutdown).

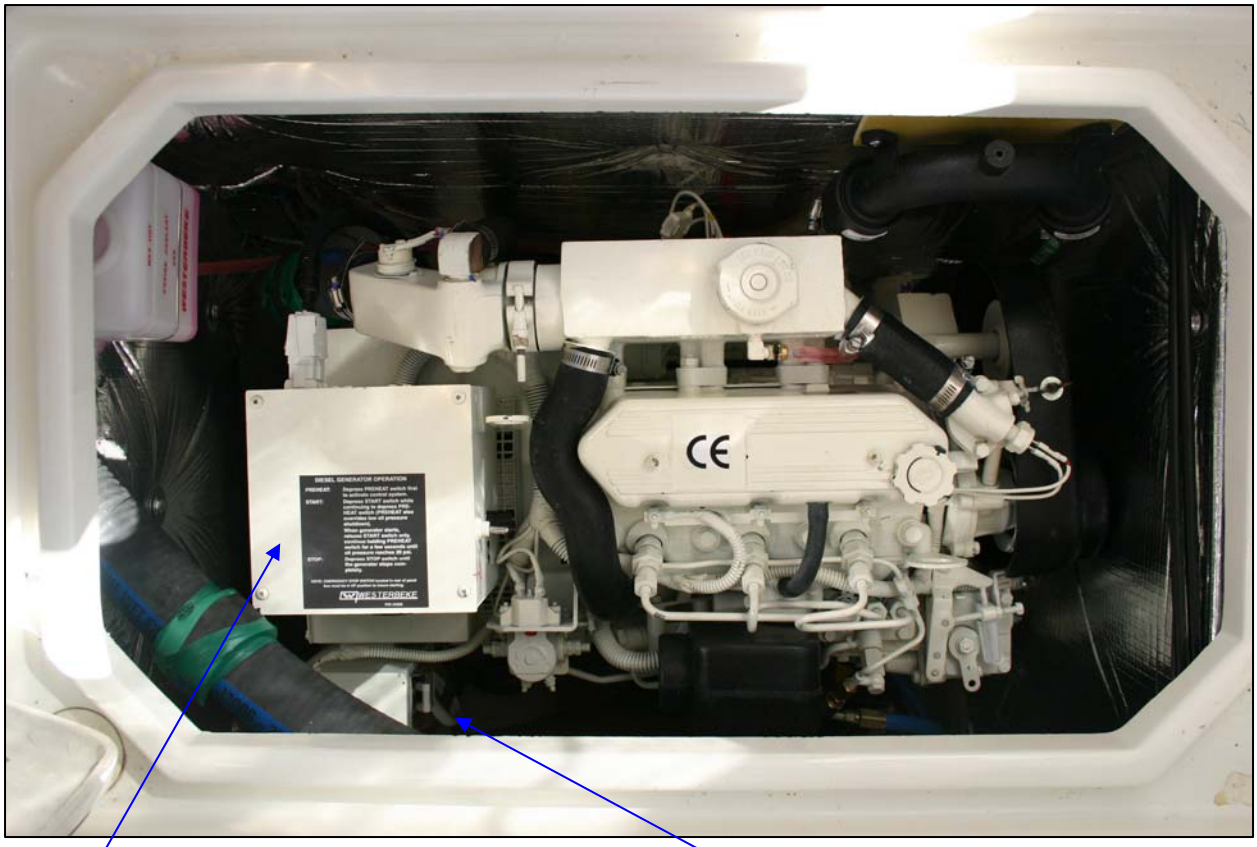
When generator starts, release START switch only, continue holding PREHEAT switch for a few seconds until oil pressure reaches 20 psi.

Allow the generator to run for 15 seconds, then switch the AC selector switches to GENERATOR (GENSET).

- Check that AC VOLTS are now reading on the AC digital meter.
- Turn the breakers ON for items you wish to operate.
-
- Note: if the generator starts, but no AC voltage is detected at the panel, check first that the selector switches (sliding interlocks) at the top of the AC panel are configured correctly. If this does not solve the problem, there is a possibility the generator was overloaded and the AC breaker on the generator itself has tripped due to a momentary overload. Open the generator hatch and reset the AC Output Circuit Breaker (located on the control box, where the wires are connected).

STOP: Depress STOP switch until the generator stops completely

BOW



STERN

Operating Instructions

AC Output Breaker Switch

CHAPTER 7 FRESHWATER SYSTEM

7.1 GENERAL

Your boat incorporates a pressurized freshwater system. [See Figure 14.5] A single 60-gallon tank supplies a pump which maintains a constant pressure in the system. An accumulator stores this pressure so that the pump does not need to cycle every time a faucet is opened.

7.2 FILLING

A deck fill is provided on the port side deck and is labeled WATER. As the tank is filled, air escapes thru the vent.

7.3 USING & MAINTAINING

The freshwater pump is turned on at the DC breaker panel. If the pump is heard running continually, check that no faucet has been left open. If this is not the case, turn off the pump and check that the tank has not been emptied. The freshwater system is not a perfectly sealed circuit and it is not uncommon to hear the pump cycle, but if this short cycling occurs more than once per hour, the system and/or pump should be checked for leaks. Some users will want to turn the pump off at night to avoid hearing it cycle.
The pump is protected from sediment by an in-line strainer mounted adjacent to the pump. The strainer should be checked periodically and cleaned if necessary.

7.4 HOT WATER

Water in the ten-gallon hot water tank is heated in one of 2 ways (1) whenever the engine is operating or when the engine is not running, by turning on the “Water Heater” breaker on the optional AC Electrical Panel. It is part of the freshwater system and does not need to be filled separately. There is virtually no need for maintenance, but the connections at the tank should be visually inspected occasionally.

The coolant lines from the engine to the tank have shut-off valves, located in the forward port side of the engine compartment. These need to open in order for the engine to heat the water in the tank. For service, or in case or a ruptured line, these valves can be closed to stop this water loop.

7.5 WATER PURIFIER (Optional)

[*See also Seagull owner’s manual*] The galley is fitted with a water purifier. This purifier has a cartridge (in stainless pressure vessel under sink) that should be replaced annually or when reduced water flow indicates that it has become plugged with sediment. It is best to clear the pressure water system of any winter anti-freeze before running water through the cartridge.
The filter is rated for 1000 gallons, which is approximately 15 water tanks’ worth.

CHAPTER 8 RAW WATER SYSTEM

8.1 GENERAL

Raw water (seawater) is used to cool the engine and the generator. It is also used in the saltwater washdown and air-conditioning options. Wherever raw water enters the boat, it does so through a seacock, which is a valved thru-hull penetration. [See Figure 14.6]

8.2 ENGINE RAW WATER

The engine and generator (if fitted) use separate seacocks and strainers. Before using the engine or the generator, make sure its seacock is in the INTAKE position. While you are checking this, visually inspect the strainer to insure that it is not fouled. *Using an engine with restricted raw water flow can cause over-heating and damage to the engine.* When you start an engine, it is advisable to check the exhaust as it exits the boat to make sure water is being mixed into the exhaust gas. You should see a surge of water every few seconds. (It make take more than a few seconds for the first surge.)

8.3 ADDITIONAL RAW WATER USES

In addition to the engine, other options may use raw water supplies. These include the generator, air-conditioning, and saltwater washdowns. Each of these will have a seacock and a strainer that need to be open and clear for the proper operation of equipment.

Note: the engine ignition panel is equipped with a raw water discharge warning light (labeled “exhaust”) that will illuminate when the flow of raw water becomes too small for the engine.

CHAPTER 9 GRAY WATER SYSTEM

9.1 GENERAL

Gray water is liquid that can legally be pumped overboard, generally from sink drains, shower drains, and bilges. Your boat also directs deck run-off to of all gray water through common drains (port & starboard) in the transom.

9.2 GRAY WATER TANK

The gray water sump box aboard your boat is located in the bilge under the panel below the bottom companionway step. This collects water from the shower drain, the refrigerator drain, and the air-conditioning condensation (if fitted). The sump pump switch on the DC panel operates a bilge pump with normal float switch to empty the tank when any of the above systems are in use. Periodically, the cover of the tank can be removed and the contents cleaned.

9.3 BILGE PUMPS

There are three bilge pumps fitted on your boat, and an emergency engine driven system.

The manual bilge pump under the starboard helm station is operated by opening the plastic cover, inserting the handle, and pumping up and down. There is a noticeable difference when the bilge has run dry. This pump is most often used as a back-up system to the two automatic pumps. Its capacity is 15 gal/min.

The automatic pumps, located forward of the engine and under the companionway steps, are wired directly to the house battery bank. This means that even when the main battery switches are OFF, the bilge pump can continue to function properly. A three-way switch controls the pumps. When held in the manual position, the pump will work regardless of whether there is water in the bilge or not. In the OFF position, the pump will not turn on. In the AUTO position operates if the water level rises. If water is detected, the pump continues to run until the water is gone. Generally, the pump should be left in the AUTO position.

The 34z's engine can also be used as an emergency pump. This is accomplished by connecting a hose (garden type) to the FLUSH port on top of the raw water intake seacock. When the handle is switched to the FLUSH setting, the engine will draw its cooling water from the hose. It must find water in order to keep itself cool. It is not recommended to run the engine at high RPM while using the emergency pump feature.

9.4 COMMON DRAINS

To eliminate unnecessary thruhull penetrations in the topsides, a common drain system is utilized on both port and starboard. [See Figure 14.7] Make sure, especially when air-conditioning is running, that the outlets for these drains, located in the transom under the swim platform, are not obstructed. Items that drain into the common drains include: hatch gutters, galley and head sinks, deck drains, sump tank and air-conditioning discharge.

CHAPTER 10 EXTERIOR EQUIPMENT

10.1 GENERAL

Although all the exterior equipment on your boat was selected with marine service in mind, it is helpful to rinse the boat with freshwater after exposure to saltwater.

10.2 ANCHOR WINDLASS (Optional)

Refer to the manual that came with your windlass for specific operating instructions.

The windlass draws power from the engine start battery. It is therefore advisable to only use the windlass when the engine is running, and to allow time for the battery to recharge after windlass use. Never try to move the boat forward with the windlass- it is sized to retrieve the anchoring gear, not to pull the boat forward. If the windlass bogs down, use the boat's engine to move directly over the anchor. If the anchor has become firmly lodged, use the boat's engine to free it, then commence retrieval with the windlass. Note: always let the windlass come to a stop before reversing direction; otherwise, the windlass fuse/breaker may blow.

To use the windlass, the engine start battery switch and house battery switch must both be ON and the windlass breaker on the panel must be ON.

⚠CAUTION To avoid chafe on the anchor rode when anchoring, it is advisable to remove the rode from the anchor chute by grabbing it below the roller, then pulling it up directly from the anchor, feeding it through a bow chock to a mooring cleat. Never rely on the windlass itself to hold the anchor rode- the chain stopper or a cleat should be used to take the load so as to avoid damaging the windlass' gears.

⚠CAUTION When not using the windlass or when underway, we recommend securing the anchor and chain with the anchor hook and line provided as standard to one of the mooring cleats. This prevents the anchor and rode from inadvertently running free underway and fouling the prop.

10.3 PILOTHOUSE CURTAINS

To prevent the outside curtain straps from flapping against clear vinyl, double the ends over and poke them back up between the window frame and curtain, then with a twist snapping them again from the inside onto the same extended post used to secure the curtain when in the UP position. There are 3 options with aft curtains (1) the most common is to roll up the center section with screen/window and secure with 2 straps, leaving the side aft curtains in place. (2) roll up all 3 aft curtains by keeping all 3 zipped together and rolled up as a single unit. (3) roll up just the clear window of the center section, leaving the screen in place.

Do not use any chemicals or brushes to clean, only mild soap. If the curtains become scratched a mild polishing compound (a white cream similar to what is used on Awlgrip) can be applied by hand to remove them. Test a small, unobtrusive area first.

These curtains are easier to snap on when they expand in the heat than when they shrink in the cold. So, it's best to secure them when it's still reasonably warm. Always store

curtains rolled (usually several together and not folded) in a dry place to prevent creasing or shrinking.

10.4 PRIVACY/SUNSCREEN CURTAINS (OPTION)

Fine white mesh allows you to see out but makes it difficult to see in. When installed at night, these curtains convert the Pilothouse to an additional stateroom. The 8 Curtain set comes rolled up in its own carry bag. Curtains attach to the outside of the windshield and fixed side windows and snap inside the roll-up side and aft curtains..

10.4 TRANSOM DOOR & SEAT (OPTIONS)

This transom door is beautifully designed and engineered for swimming, showering or stern-boarding. When closed, you'd hardly know it was there.

The starboard section of the Adirondack (Option) Transom Seat is folded, back-to-bottom and removed. Then along with it's cushion, slipped into a vinyl bag which is slid behind the remaining 2/3s seat for storage. A very workable seat remains from which to watch the family swim. white mesh allows you to see out but makes it difficult to see in. When installed at night, these curtains convert the Pilothouse to an additional stateroom

10.4 OUTBOARD STORAGE MOUNT

This unobtrusive bracket is designed for the lightest 2-Stroke engine we could find, the Mercury 3.8 short shaft which functions well with a rollable Avon Redcrest inflatable dinghy. The dinghy can be stored in a cockpit or pilothouse locker or on the hardtop when inflated.

11.1 MARINE VACUFLUSH HEAD SYSTEM

NOTICE Waste discharge regulations vary by location. Check with local authorities.

The waste system aboard your boat employs freshwater and a vacuum generator. The freshwater pump breaker and Vacuflush breaker must both be on (DC panel) for the system to work. Further controls are located on a panel in the head (shown).

Refer to the manufacturer's manual for more details.

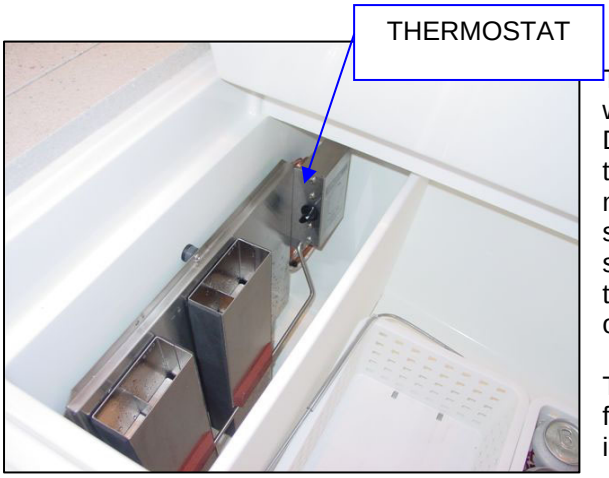
When the foot-pedal of the toilet is depressed, waste is drawn through the vacuum generator to the waste tank. Tank capacity is 20 gallons, which may seem small, but since each flush requires about a cup full of fresh water compared to the several quarts of sea-water using a conventional marine pump-head, the capacity is more than adequate and there's no odor. Waste can be discharged two ways:

(a) Via the shore-side pump-out fitting on deck labeled WASTE using marina facilities. To effectively remove all the waste from the holding tank using, be sure to first turn OFF the vacuum pump system and step on the head flush pedal to remove all vacuum.

(b) Offshore beyond restricted waste disposal zones by (1) OPENING the large waste thru-Hull discharge valve, accessible to starboard and aft in the cockpit lockers then (2) TURN & HOLD the switch in the Head to the right to activate overboard pumping using the macerator pump. The control panel lights indicate the level of waste in the holding tank. The level can be double-checked by viewing the dark waste line through the side of the semi-transparent holding tank from the starboard aft cockpit locker.

WARNING *Before activating this discharge, check to insure compliance with local regulations.*

11.2 DC REFRIGERATION (Optional)



The top-opening refrigeration unit utilizes a cold-plate within the refrigerator enclosure which is chilled by a DC powered unit mounted in the machinery space on the port side. The refrigerator breaker on the DC panel must be on for the unit to work. The thermostat for the system is located in the icebox. Once on, the unit will self-regulate. For further information and troubleshooting procedures, refer to the Seafrost operating manual.

The partitions in the refrigerator are designed to create freezing temperatures next to the cold plate where the ice-trays are located.

11.3 COOKTOP (Optional)

The galley cooktop aboard your boat is powered by AC electricity. To use it, make sure the cooktop breaker on the AC panel is ON and that a supply of AC power is present.

⚠CAUTION Do not leave the cooktop ON while unattended.

11.4 MICROWAVE OVEN (Optional)

This 800 Watt AC Panasonic unit offers several cooking modes which maybe operated without shorepower by utilizing the inverter for AC power and turning ON the switch on AC Panel #1. Please refer to the Panasonic Users Manual for operating instructions and precautions. The manual is stored inside the oven when the boat is initially delivered.

11.5 MARINE-AIR AIR-CONDITIONING (Optional)

If installed, the 16,000 BTU air-conditioning system can help keep the interior of the boat cool. It also has a reverse cycle to act as a heater. For a full explanation of the A/C controls, see the manufacturer's user's manual.

A diverter gate-valve is installed under the head sink which can direct a portion of the air flow through the outlet grill by the helm console. This is intended primarily to provide cool/warm air to the operator only. However, with the curtains all closed, the pilothouse air temperature can be reasonably controlled. The capacity of the unit is designed to efficiently cool interior cabin and can help make the pilothouse cooler in very hot weather, The heat works particularly well to warm both the interior and pilothouse if the sea temperature is above 40 degrees.

The A/C system uses raw water, much like the engine, for heat exchange. There is an intake seacock, strainer & pump located under the bottom companionway step. These should be checked frequently, and are the first things to check if the unit fails to deliver cold air.

11.6 WALLAS 40D DIESEL HEATER (Optional)

This heater is DC powered, controlled by a thermostat on the forward side of the entertainment center and draws diesel fuel from the starboard fuel tank. Please read the manual for instructions

⚠CAUTION Do not use the Circuit Breaker Switch to Turn off the Heater when it is operating. Before turning off the breaker switch, be sure to turn the control panel from heat to vent until the heating element has a chance to cool off.

11.7 CLARION XMD3-RET STEREO PLAYER AND 6CD CHANGER (Optional)

This multi-media unit over the electrical panel operates on DC power. The STEREO breaker on the DC panel must be ON before you can turn on the unit. To select the functions, whether "Tuner" for AM/FM stations, "CD" for CD control functions, "Sirius" for satellite radio, "Aux" for surround sound when the TV is playing, etc., press the "**Power**" button repeatedly. The fore and aft volume balance between interior and pilothouse speakers is controlled by the "**Fade**" function. See the instruction manual for further operating details.

11.8 SIRIUS SATELLITE RADIO ACTIVATION (Optional)

To activate Sirius Satellite Radio services on the Clarion XMD4, you will need the serial number:

(1) Push the "MENU" button in the upper right set..
(2) Using the right or left arrow scroll to "SID DISP".
(3) The first 6 digits of the serial number will be displayed.
(4) Turn the rotary dialing know counter-clockwise to display the last 6 digits of the SID

(5) Call Sirius at 1-888-539-7474 to activate, conveying the 12 digits of the Serial Number of the unit.
(6) Tell them that you just purchased an MJM 34z motorboat with Sirius installed and that you understand that Sirius is offering a 1 year free subscription to new boat owners. Be ready to give them the HIN # which is etched into the upper right corner of the transom. Note: The promotion may be over by the time you do this, but worth a shot in any case.

Subcribers to Sirius also get free PC music programming at home. Works great, hooked up to a couple of SONY SRS-Z750 speakers or similar. Music plays while doing Email.

11.9 22" LCD TELEVISION AND DVD PLAYER (Optional)

The TV operates on AC power and the DVD player on DC. To use it, both the ENTERTAINMENT CENTER breaker on the AC panel must be ON, the STEREO breaker on the DC panel must be ON and a supply of AC power must be present (either from the inverter, shore-power1, or the generator).

Video signals maybe acquired from the DVD, from a dockside cable TV outlet, from a conventional local TV antenna or from a portable satellite dish sytem.

CHAPTER 12 ROUTINE MAINTENANCE

12.1 Refer to the following chart for routine maintenance actions. Refer to the engine manual for additional actions to be taken after 1000 hrs. Some of the items you may choose to leave to professionals, but many you can do yourself. In particular, it is a good idea to have a certified mechanic perform check-ups from time to time on the engine, generator, and any other valuable equipment installed onboard. The following table may include optional equipment not installed on your boat. Yanmar & Westerbeke engines are assumed – check your manuals if your brands differ.

ITEM	REQUIRED MAINTENANCE	INTERVAL
ENGINE		
Oil Level	Check, add if necessary	At each use
Coolant Level	Check, add if necessary	At each use
	Replace	250 hrs. (50 hrs. first change)
Air Filter	Check, clean if necessary	Seasonally
Turbo Charger	Clean blower	250 hrs.
Zincs	Check, replace if necessary	At each oil change or 6 months
Alarms	Check	Daily
Fuel Filter	Change fuel filter (on engine)	250 hrs.
Oil/Filter	Change oil and oil filter	250 hrs. (50 hrs. first change)
Mounts	Tighten	Annually
Exhaust	Visually inspect for leaks	500 hrs.
Drive Belts	Check, tension if necessary	500 hrs.
Transmission Oil	Check level, add if necessary	At each use
	Clean inlet filter net & replace oil	At 50 hrs., 250 hrs., 1000 hrs.
FUEL SYSTEM		
Tanks	Visually inspect for leaks	Monthly
Filter	Visually inspect for contamination	At each use
	Change element & clean bowl	250 hrs.
Valves	Operate to insure ease of movement	Monthly
Connections	Visually inspect for leaks	Monthly
Selector Valve	Operate to insure ease of movement	Monthly
GENERATOR		
Oil Level	Check, add if necessary	Daily or 8hrs. running time
Oil	Change	100 hrs. (after first 50 hrs.)
Fuel Filter/Water Separator	Check for contamination	Daily or 8hrs. running time
	Drain & replace filter, if necessary	100 hrs.
Fuel Filter	Change	100 hrs.
Engine Hoses	Check – hoses should be hard & tight	Weekly
Exhaust System	Inspect for leaks, check anti-siphon	Weekly & after first 50hrs.
RAW WATER SYSTEM		
Seacocks	Operate to insure ease of movement	Weekly
Strainers	Visually inspect for contamination	Daily or before each use
	Thoroughly clean screen & bowl	As necessary
FRESH WATER SYSTEM		
Tank	Open access and clean	Seasonally
Strainer	Check & clean as necessary	Weekly
Accumulator	Check pressure & re-pressurize if necessary	Monthly
Purifier	Replace Seagull filter cannister	Annually, or with reduced flow
GRAY WATER SYSTEM		

Sump	Open lid and clean contents	Seasonally
Automatic Bilge Pump	Check functionality	Daily
Manual Bilge Pump	Check functionality	Monthly
Bilge Area	Check for foreign matter & clean if necessary	Weekly or as needed
ELECTRICAL SYSTEM		
Batteries	Visually inspect and clean surface	Monthly
	Check voltage	Daily
Connections	Check all AC & DC connections for contact	Seasonally
Transom Zinc	Check and replace if necessary	Monthly
MISCELLANEOUS		
Trim Tabs	Check operation	Daily
	Check fluid level & Barnacle Build-up	Monthly
Steering	Check fluid level, add or purge if necessary	Monthly
Throttle	Lubricate linkage	Seasonally
Bow-Thruster	See manufacturer's operator's manual	
	Check zinc, change if necessary, Clean	Quarterly

12.2 FLUIDS

Engine lube oil - use 15W40 (SAE viscosity)

Transmission oil - use Automatic Transmission Fluid (ATF). A complete list of acceptable brands is included in Chapter XI of the transmission manual.

Coolant - use only distilled water and/or the coolant/antifreeze listed in the Yanmar manual.

CHAPTER 13 SEASONAL MAINTENANCE

13.1 START OF SEASON

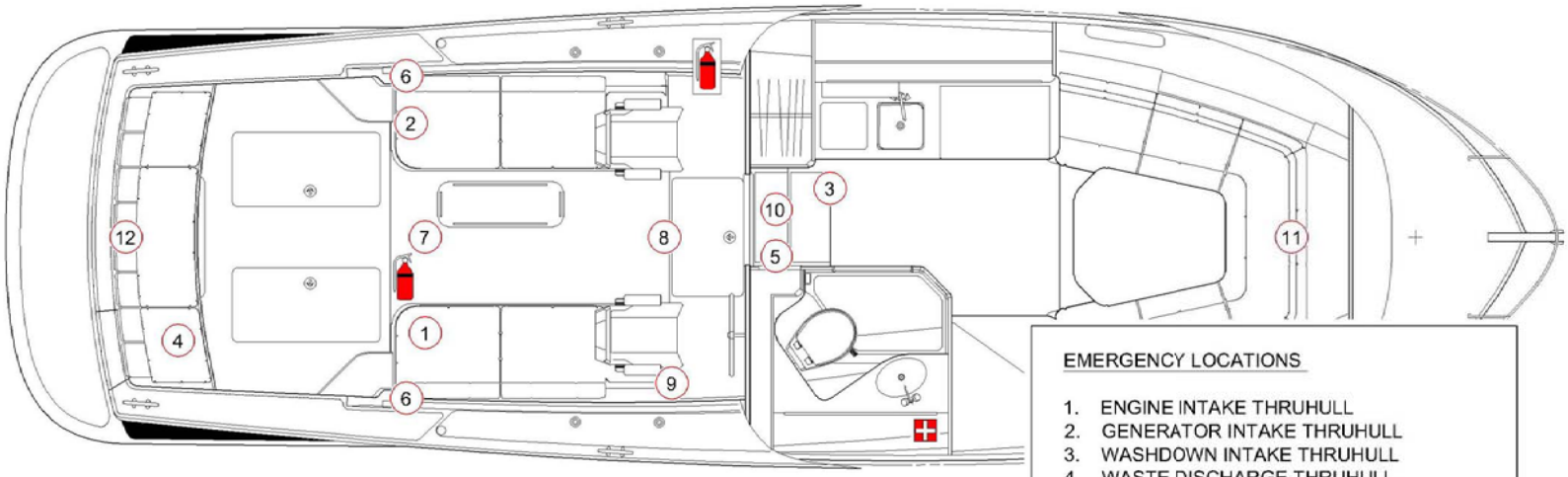
[commissioning]

13.2 END OF SEASON

Most facilities will not require additional information before hauling the boat with a Travelift or crane, but if this is the case, use the included Lifting Diagram Figure 14.10.

The end of the season is a good time to have the bottom power-washed and to check all thruhulls and seacocks for growth. Careful inspection of all underwater hardware at this point may avoid a potential problem in the future. This is also a good time to check the zincs of the boat and replace as necessary.

If the boat is to be stored in a place where the ambient temperature may fall below the freezing point, it must be winterized. Plumbing lines need to be emptied and anti-freeze added where applicable. Consult also the engine operator's manual.



FIRE EXTINGUISHER
(MANUAL & AUTOMATIC)

FIRST AID

EMERGENCY LOCATIONS

1. ENGINE INTAKE THRUHULL
2. GENERATOR INTAKE THRUHULL
3. WASHDOWN INTAKE THRUHULL
4. WASTE DISCHARGE THRUHULL
5. A/C INTAKE THRUHULL
6. FUEL SHUT-OFF VALVES
7. PROP SHAFT SEAL
8. ELECTRIC BILGE PUMP
9. MANUAL BILGE PUMP
10. BATTERY DISCONNECT SWITCH
11. BOW-THRUSTER TUNNEL
12. RUDDER PORT

FIGURE 14.1 - EMERGENCY DIAGRAM

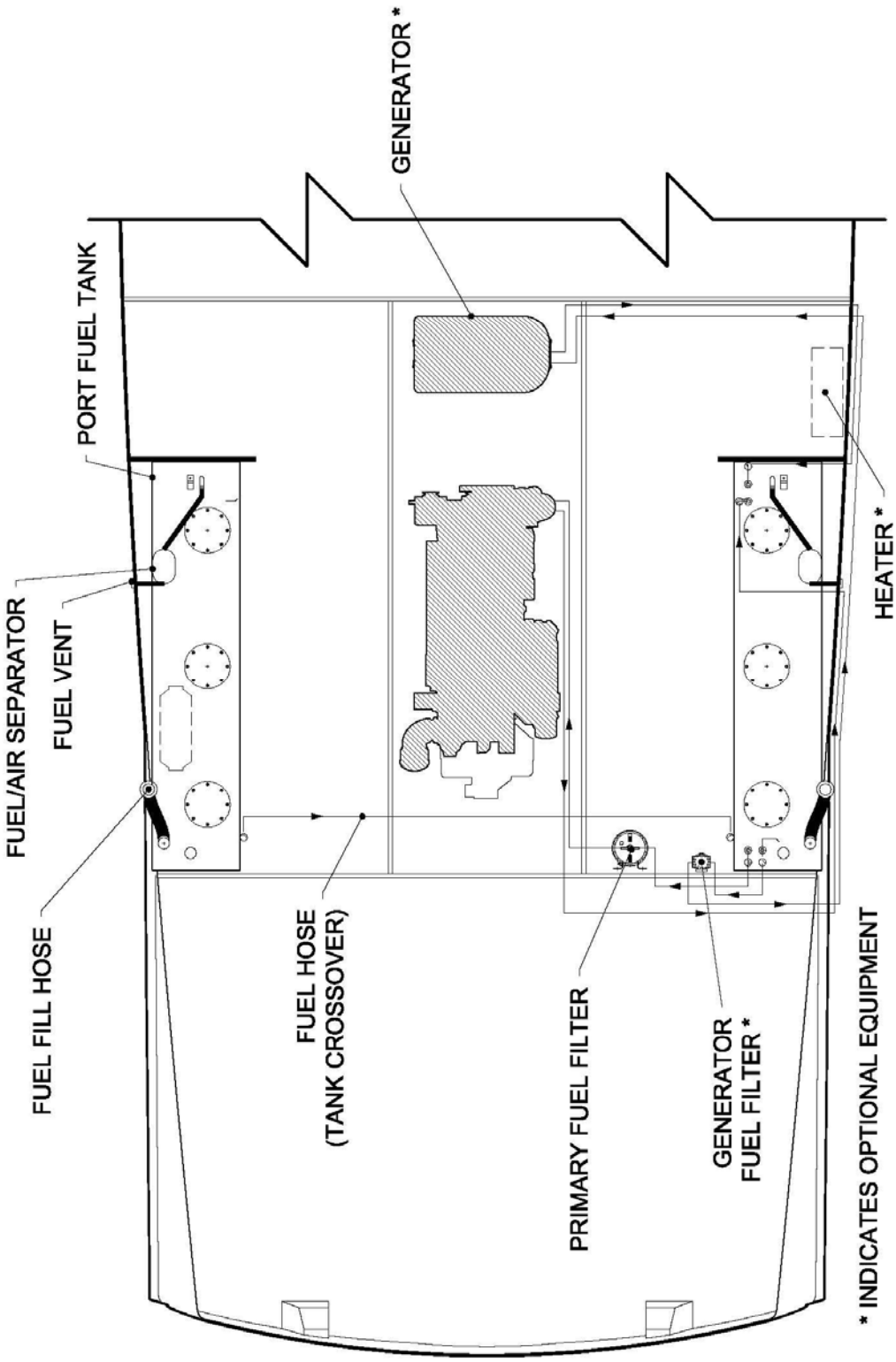


FIGURE 14.2 - FUEL SYSTEM

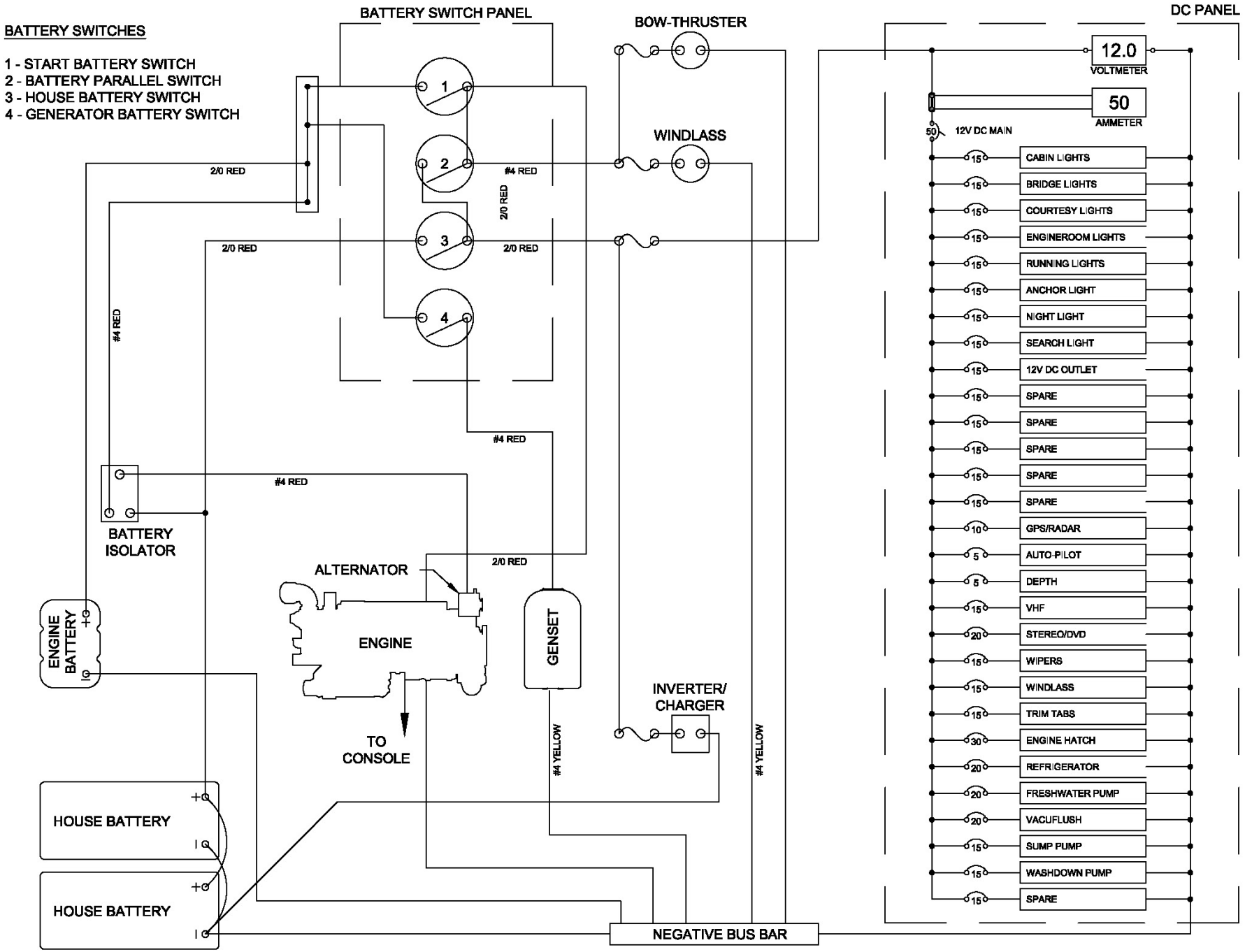


FIGURE 14.3 - DC SCHEMATIC

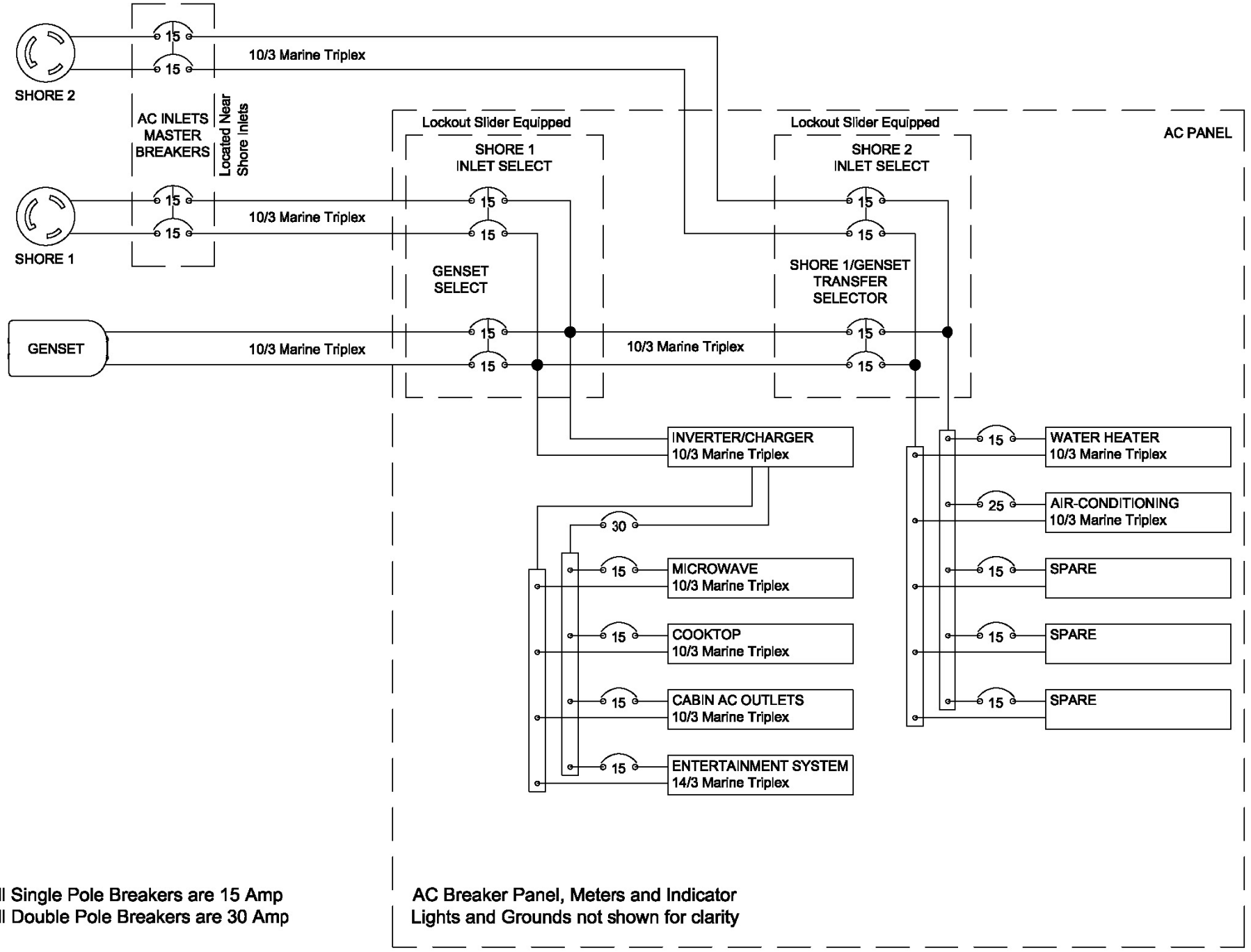


FIGURE 14.4 - AC SCHEMATIC

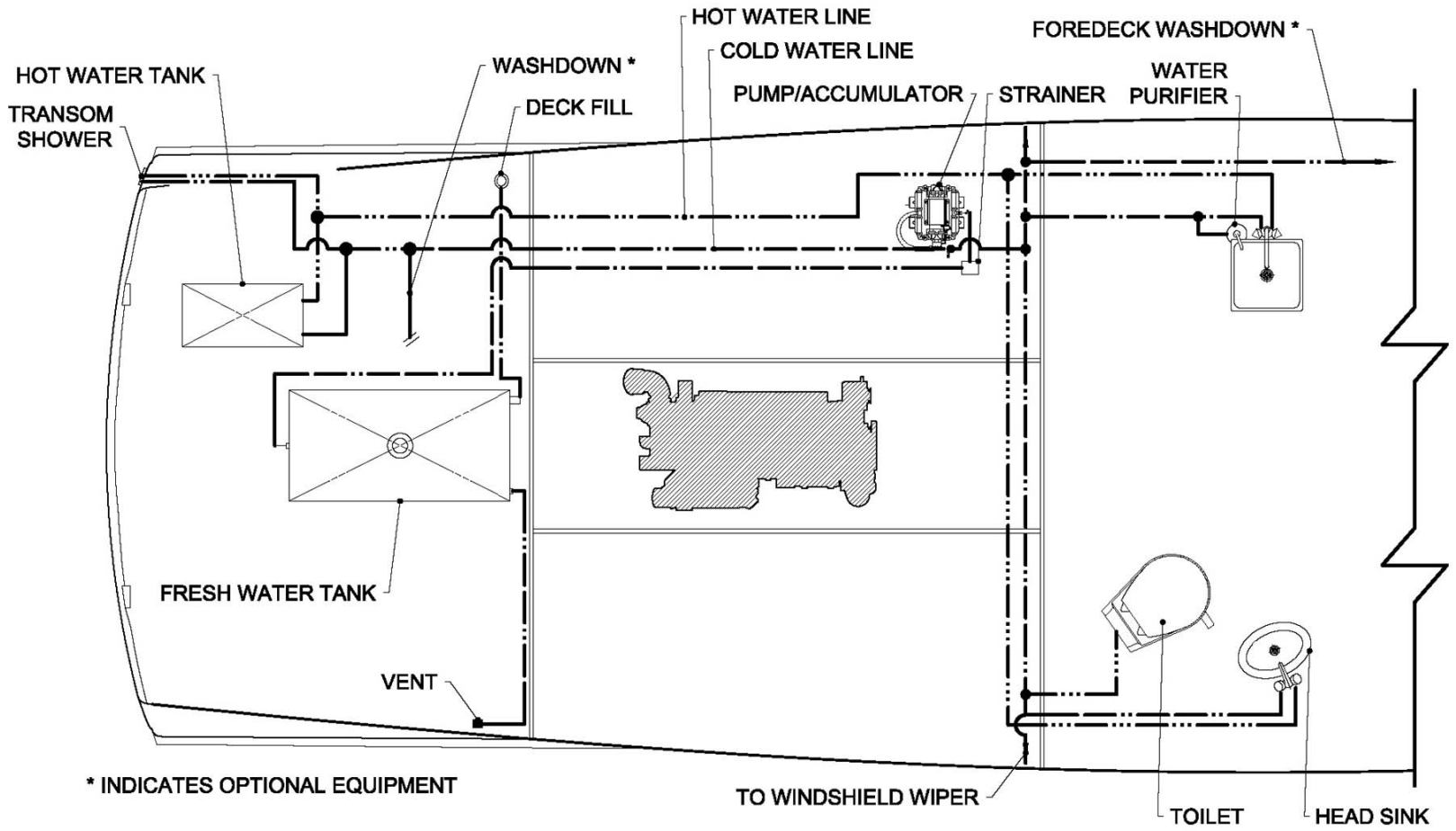


FIGURE 14.5 - FRESHWATER SYSTEM

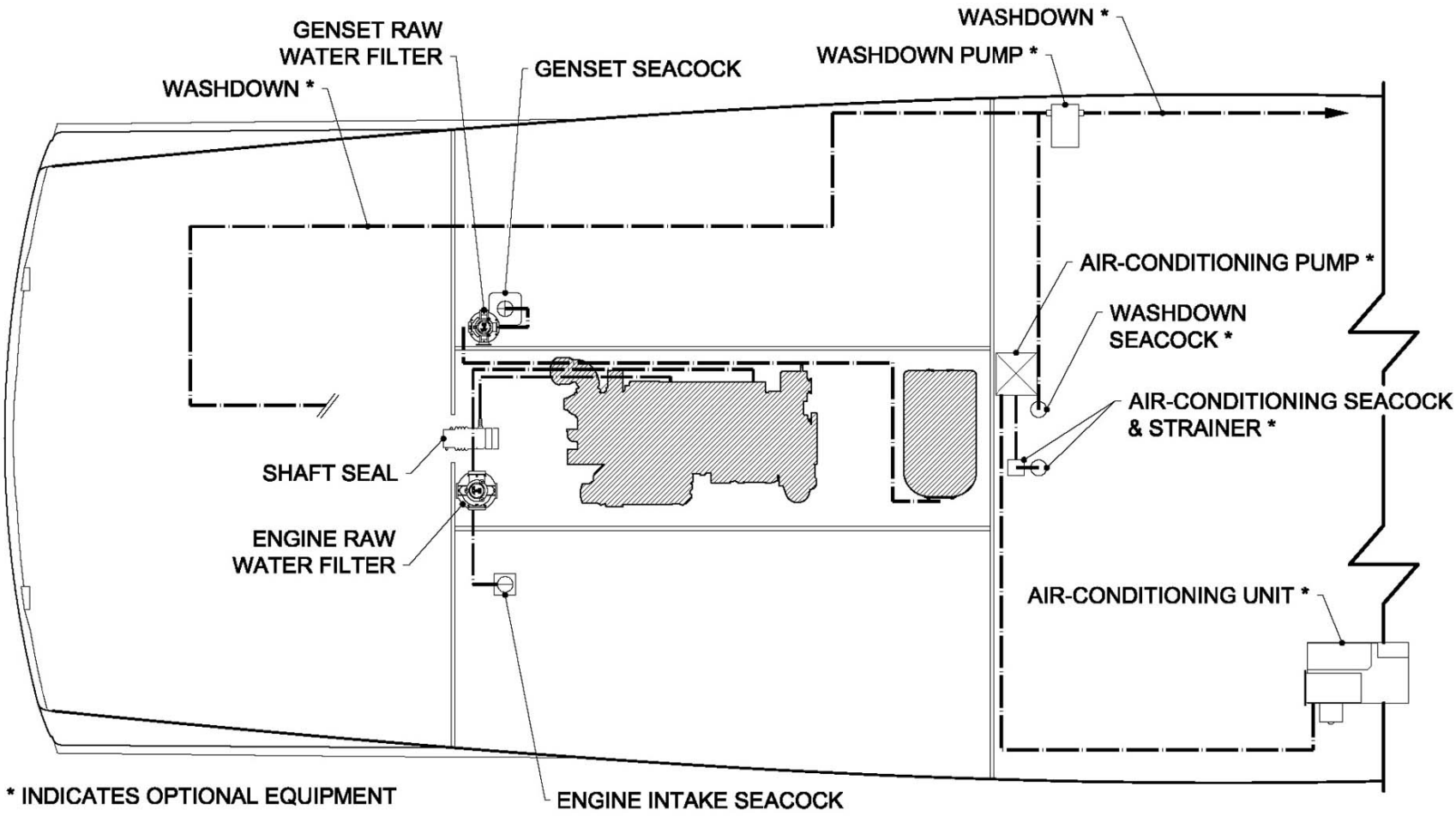


FIGURE 14.6 - RAW WATER SYSTEM

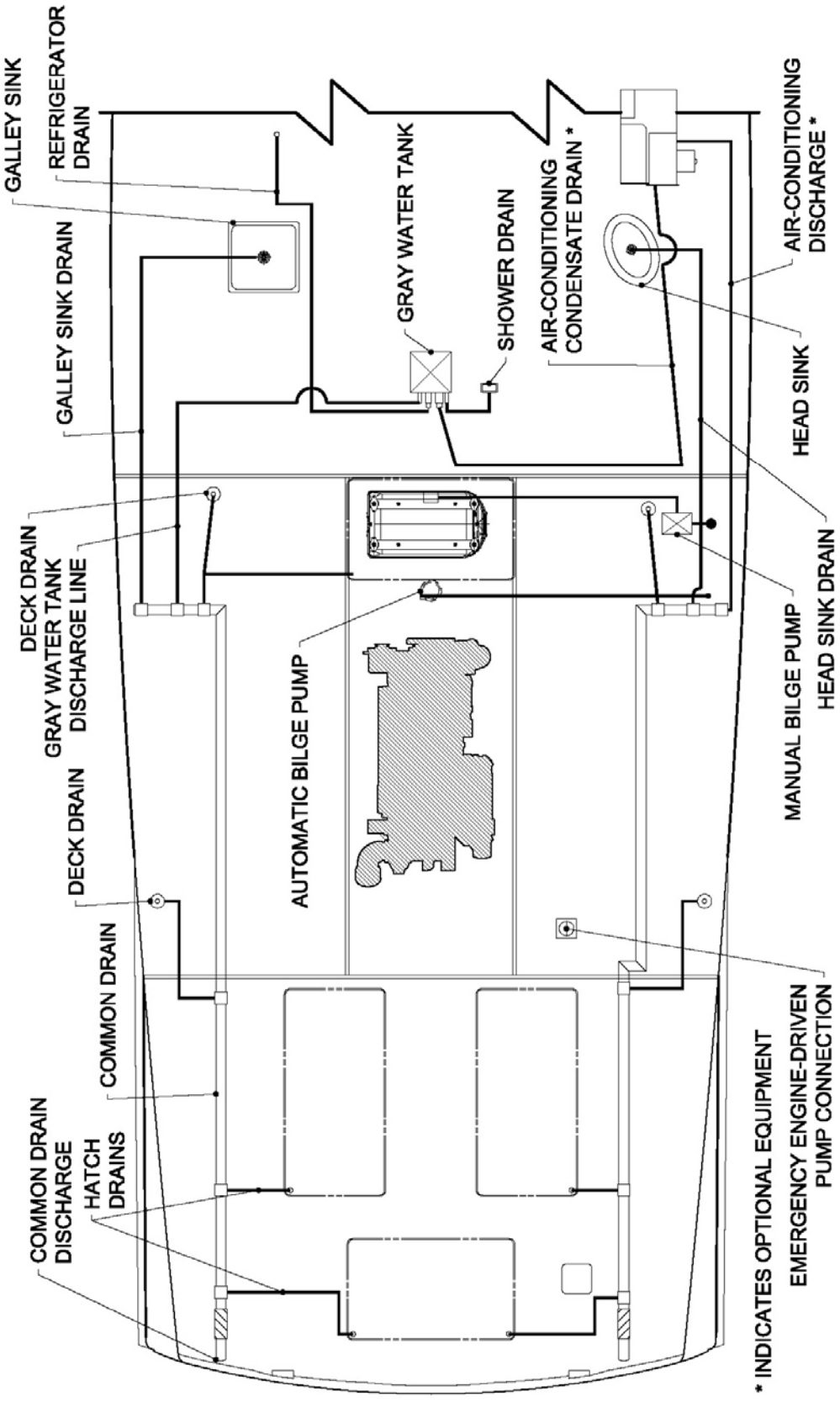


FIGURE 14.7 GRAY WATER SYSTEM

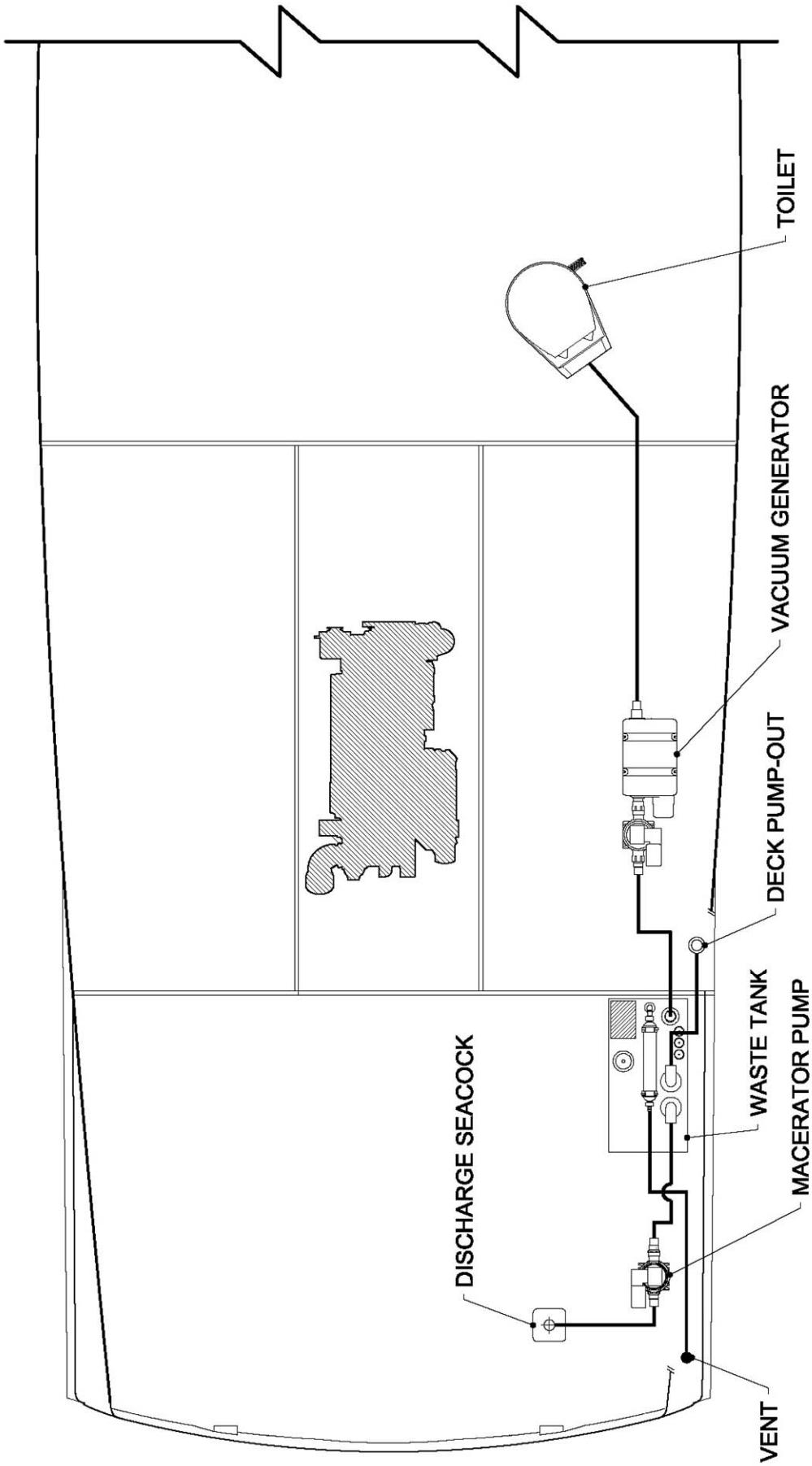


FIGURE 14.8 - WASTE SYSTEM

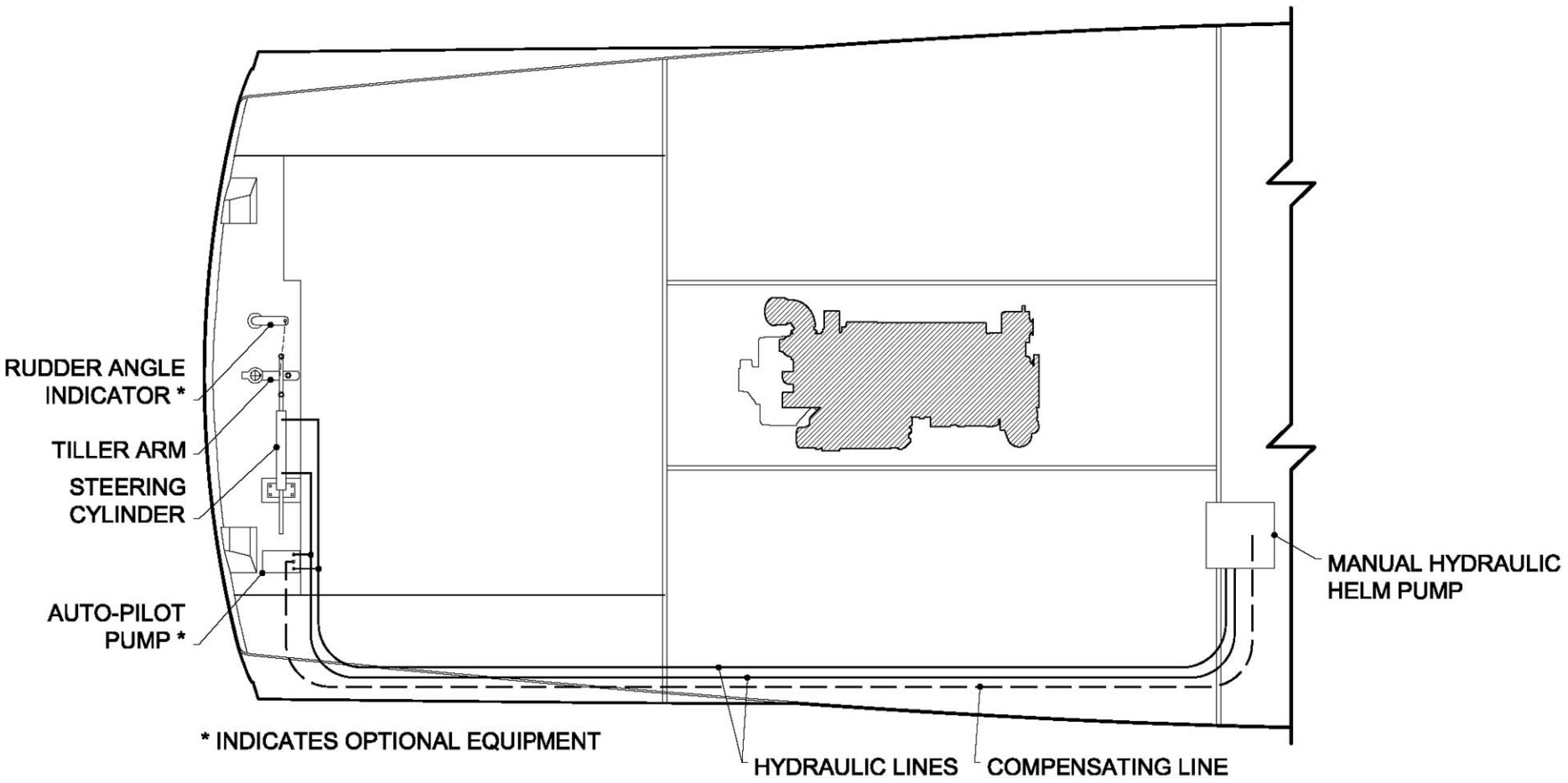


FIGURE 14.9 - STEERING SYSTEM

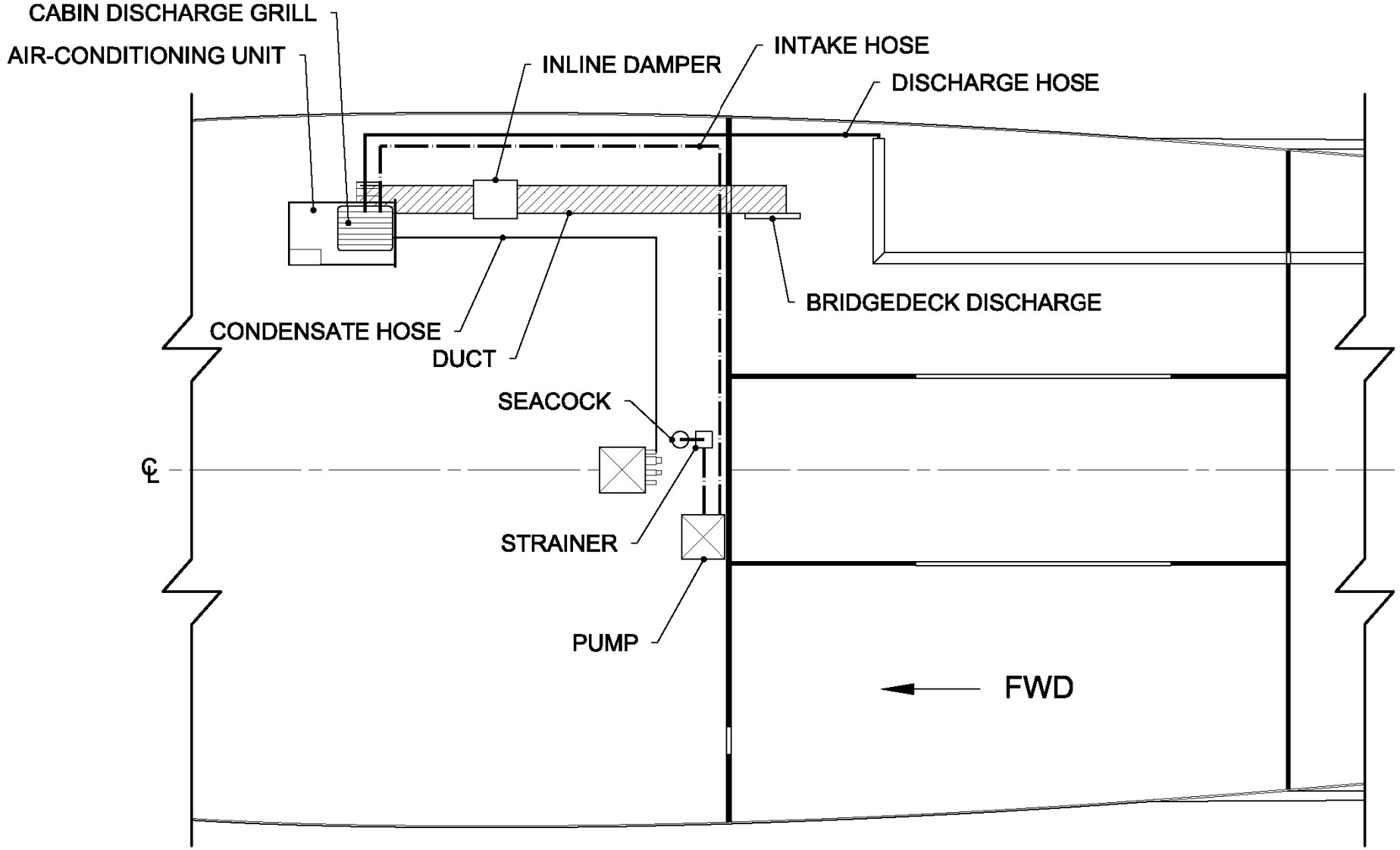


FIGURE 14.10 – AIR-CONDITIONING

FIGURE 14.11 – LIFTING STRAP DIAGRAM

(Easy to remember: Either end of Pilothouse)

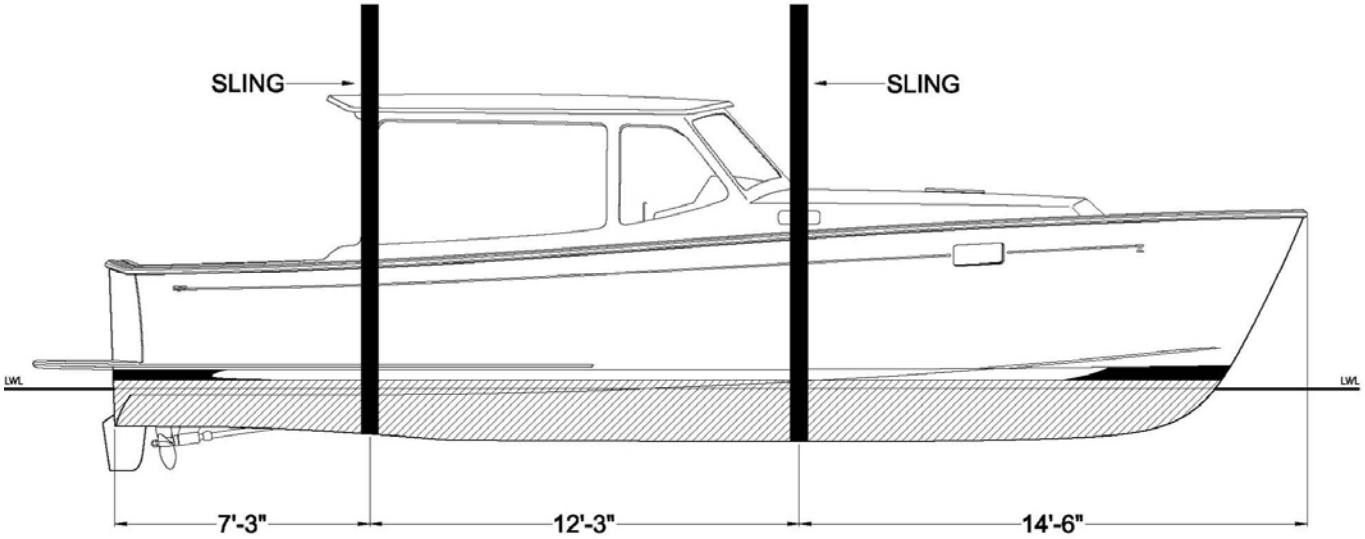


FIGURE 14.12 – 9.5' BRIDGE and 11.9' TRAILER LOADING CLEARANCES

(VHF hinges down, White mast Light unscrews and can be removed)

When in doubt, position yourself on the foredeck at the height of the radar dome to line up a bridge.

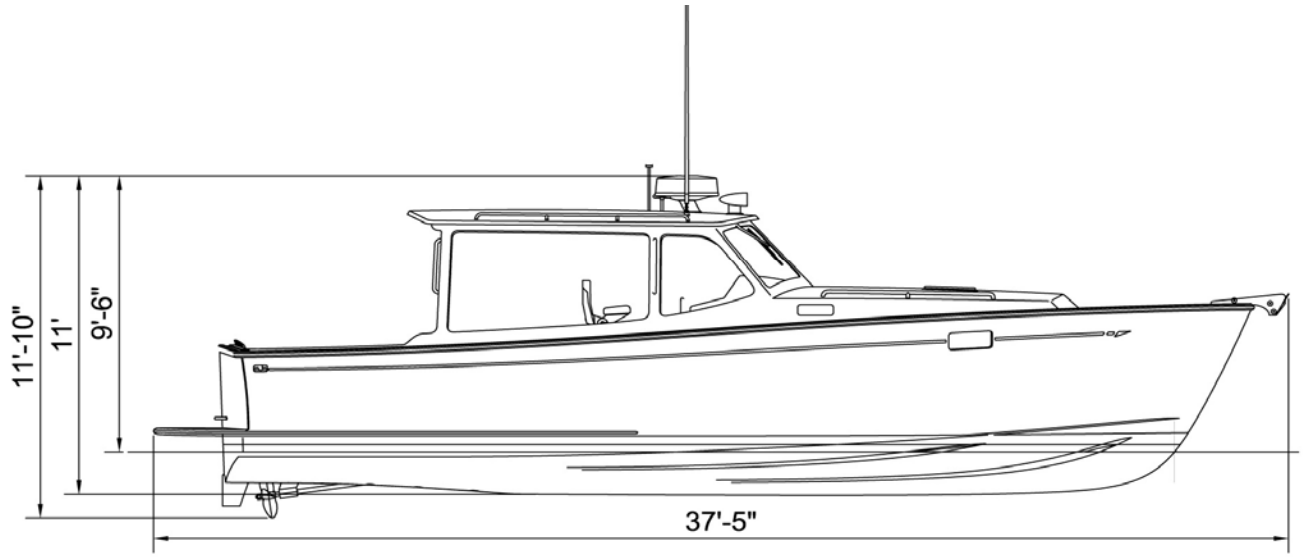
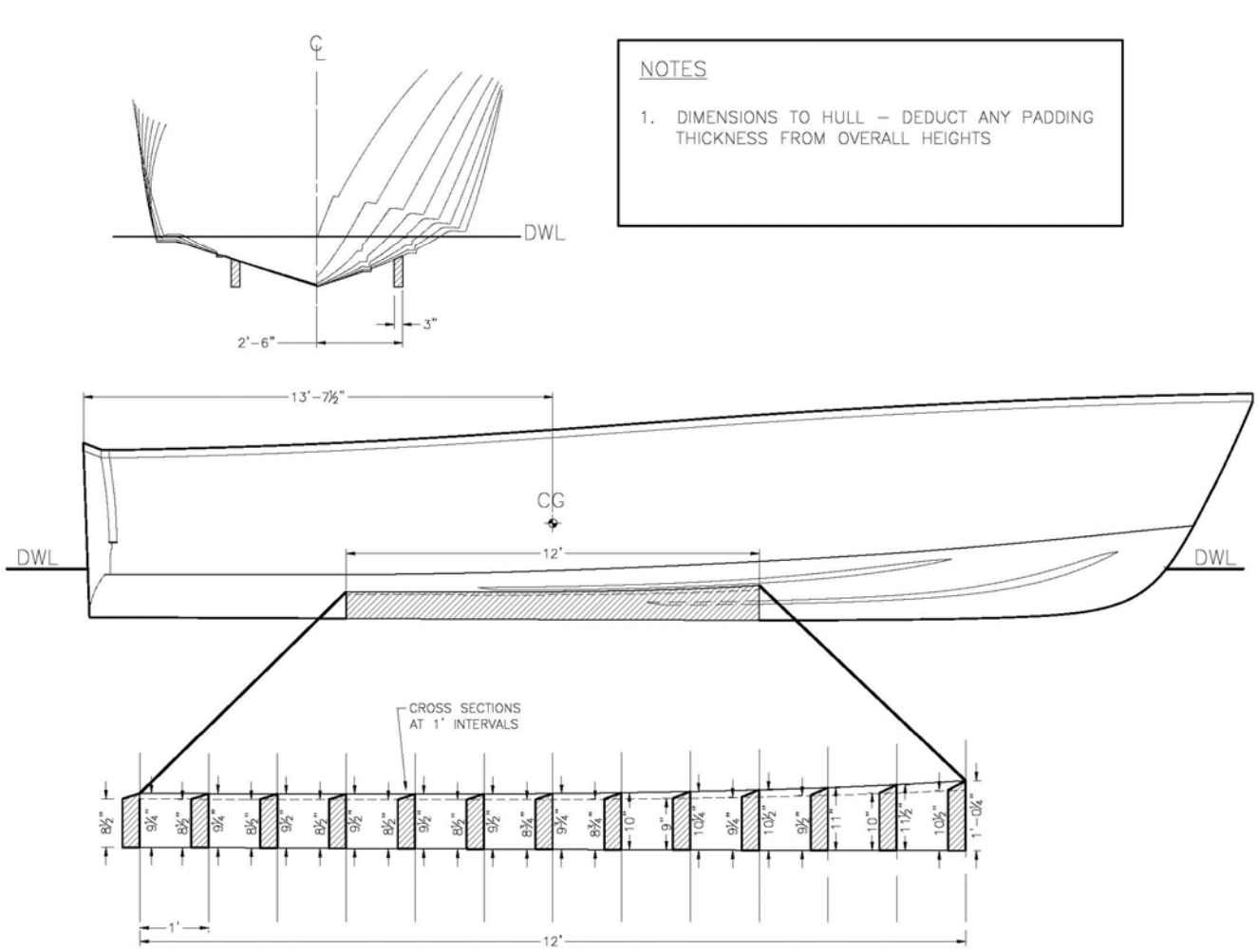


FIGURE 14.13 – LIFT & TRAILER BUNK TEMPLATES



CHAPTER 15 BOSTON BOATWORKS LIMITED WARRANTY

Manufacturer's Sole and Limited Warranty for Pleasurecraft

A. **General.** This document sets forth the sole and limited warranty, which Boston BoatWorks ("The Manufacturer") is giving you in connection with the "Vessel" which you are acquiring. It is the only warranty being given by the Manufacturer and should be reviewed carefully together with manuals and other instructional material provided by the Manufacturer before you take delivery of the Vessel.

B. **Basic Warranty.** The Manufacturer warrants that the Vessel (except for Excluded items described below and when Properly Used, will be free of defects in material and workmanship for a period of twelve (12) months from delivery of the Vessel to you by an Authorized Dealer. If you sell the Vessel during this period, your buyer may receive the benefit of the balance of the warranty by agreeing to be bound by its terms.

C. **Extended Warranty for Structure.** In addition to the foregoing warranty, the Manufacturer warrants that the stringer systems, structural bulkheads and composite laminates of the Vessel (except for Excluded items) and when the Vessel is Properly Used, will be free of defects in material and workmanship for a period of five (5) years from delivery date by an Authorized Dealer. This warranty may be transferred to your buyer in the same manner as the Basic Warranty.

D. **Extended Warranty Against Osmotic Blistering**. In addition to the foregoing warranties, the Manufacturer warrants that any gelcoat surfaces of the Vessel below the waterline will not blister when the Vessel is Properly Used for a period of ten (10) years from delivery date by an Authorized Dealer. This warranty may be transferred to your buyer on the same manner as the Basic Warranty.

E. **Dealers.** The name and address of Authorized Dealers is available from the Manufacturer. The Manufacturer does not authorize the Dealer, or any other person, to assume for the Manufacturer any liability in connection herewith or any liability or expense incurred in the repairing of its products other than those expressly authorized by the Manufacturer in writing.

F. **Excluded Items.** The Manufacturer gives no warranty as to:

   a. Paints, varnishes, gelcoats (except where included in paragraph D above)a, exterior wood, vinyls, fabrics, glass, chrome plating or anodized or other finishes or surface coatings because of the varying quality of these items manufactured by others and the effect resulting from different climactic and use conditions
   b. Engines, mechanical equipment, pumps, batteries, heating, plumbing, refrigeration, electronic components, masts, or other components manufactured by other than the Manufacturer, or the cost of removal or re-installment of the part and disassembly, or reassembly of the unit of which it is a component.
   c. All items not installed by the Manufacturer or altered after their installation, and items installed or altered by Authorized Dealers.
   d. Other than upon first being delivered, leaks in or around hatches, companionways, deck hardware or other leaks which are above the waterline.
   e. Damage to the Vessel (including, but not limited to, wet core) caused by leakage around decks, hardware or other accessories attached to, or incorporated into, the Vessel.
   f. Speed, fuel consumption or other performance characteristics, because they are estimated and not guaranteed.

G. **Proper Use.** The warranties contained herein are expressly conditioned upon your Proper Use of the Vessel. This means that you must use the Vessel solely as a pleasure craft (no commercial use) and operate it as directed in and after reviewing the Manuals provided by the original equipment manufacturer and the

Manufacturer, and perform maintenance to the Vessel as recommended in the Manuals and as required by periodic inspections by an Authorized Dealer or Service Center.

H. **Warranty Claims.** To make a claim under this warranty you must do the following

a. Report the defect to the Manufacturer or Authorized Dealer within thirty (30) days of discovering it, and when possible prior to incurring any expense, identifying the Vessel and submitting photographs (email digital preferred).
b. Make the Vessel available for inspection by the Manufacturer or Authorized Dealer when requested.
c. Make the vessel available for repairs, if required, by the Manufacturer or Authorized Dealer.
d. Major components, such as engines, generators, air-conditioners, electronics, appliances for example are warranted by the manufacturer of the component. They have authorized service dealers in most major boating markets. The Manufacturer or Dealer will identify such service dealers upon request.

I. **Repair or Replacement**. The manufacturer shall perform its obligations under this warranty by, at it option, repairing or replacing (at Manufacturer's expense) the defective part or component. Parts or components replaced will become the property of the Manufacturer. The replacement of parts o components will not extend the warranty but the replacement parts and components will be covered for the balance of the warranty period. You shall be responsible for returning the Vessel to Manufacturer at its plant or at a designated marina in the State of Massachusetts or to such other repair facility that the Manufacturer shall designate, at your sole expense.

J. **Specification Changes.** The manufacturer reserves the right to make changes in design, equipment, layout or construction without notice or being obligated to incorporate such changes in previous products.

K. **Registration Cards.** The Manufacturer recommends that you immediately fill out and return the Warranty Registration Card for the Vessel. The information contained on this card will enable the Manufacturer to more quickly process any warranty claims and to comply with the Federal Boating Safety Act. Should you sell the Vessel, the Manufacturer recommends that your buyer also fill or a Warranty Registration Card.

L. **Exclusion of Implied Warranties.** The foregoing warranty is intended to be in lieu of all other warranties, express or implied. In part, due to the hazardous, life-threatening environment, capable of overwhelming vessels of any size, that the Vessel will operate in, THE MANUFACTURER OR ITS DEALER DISCLAIMS ALL IMPLIED WARRRANTIES INCLUDING WARANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. In some jurisdictions, the Manufacturer is prohibited from excluding or limiting implied warranties. In those jurisdictions, the Manufacturer expressly limits any implied warranties to the greatest extent and to the shortest duration allowed by law.

M. **Limitation of Damages.** THE MANUFACTUER OR ITS DEALER DISCLAIMS ANY LIABILITY TO YOU FOR INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES TO YOU, including loss of use, loss of revenue, travel expenses, transportation charges, food or lodging charges or loss of personal property. In some jurisdictions, the Manufacturer is prohibited from excluding or limiting implied warranties. In those jurisdictions, the Manufacturer expressly limits any implied warranties to the greatest extent and to the shortest duration allowed by law.

N. **Whole Agreement.** This warranty is the sole warranty given to you by the Manufacturer. Authorized Dealers are not authorized to make changes to this warranty. Any questions about the warranty should be directed to the Manufacturer. If you do bring a claim against the Manufacturer that is related to the Vessel, you must bring it in the Courts for the State of Massachusetts.

BOSTON BOATWORKS

Pre-Approval for Warranty

Please Fax Claim to: (617) 561-9222 **Date_____**

Boat Model_____Boat Name_____Hull #_____

Dealer_____Contact Person_____

Phones_____Fax_____ Email_____

Description of Problem: _____

_____

_____

_____

Description of Resolution: _____

_____

_____

_____

_____

_____

Estimated Completion Date: _____

Labor Rate $ _____ Total Materials Cost $ _____

Total Labor Hours _____ Total Estimated Cost $ _____

AMOUNT APPROVED: $_____ APPROVED BY:_____

Warranty Claim Application Form

Boston BoatWorks, LLC
256 Marginal Street, East Boston MA 02128
Phone: (617) 561-9111 Fax: (617)561-9222

Date:_____ Boats Name:_____ 34z Hull # _____

Dealer/Service_____ Boat Owner:_____

Address: _____ Address:_____

_____ _____

Phone:_____ Phone # _____

Fax:_____ Boat Location:_____

Contact Person:_____ Delivery Date:_____

Description of Defect (please include photos)

Description of Corrective Action (include invoices)	Labor Hrs:
	Labor Rate:
	Labor Cost:
	Material Cost:
Total amount of claim	**$**

All claims require prior approval by BBW Customer Service using the Pre-Approval Form

Date Approved:_____ Amount Approved:_____ Approved by:_____

CHAPTER 16 QUICK START GUIDE

1 - Disconnect Shore-side Connections

To disconnect shore power cords, turn off all AC loads on the boat and make sure the main AC breakers on the AC panel (the double breakers) are all OFF. Then disconnect the cord *at the dock end first*. Disconnect the cord at the boat and close the shore power inlet cover. Ditto for any phone/cable lines.

2 - Set Battery Switches

The battery selector switches are under the companionway step. Turn the engine start switch and the house battery switch to the ON position. The parallel switch should be in the OFF position and the generator switch only needs to be ON when running the generator.

Remember to turn them all OFF when leaving the boat.

3 - Check Engine

It is advisable to check the engine fluid levels before starting the engine. Refer to the Owner's Manual for instructions on lifting the bridge-deck and checking the oil and coolant levels. At this time, turn the fuel selector switch to the desired tank, or both (see Owner's Manual for further recommendations).

4 - Check Raw Water Seacock

Make sure that the raw water seacock is in the INTAKE position to supply the engine with seawater for cooling. It is also advisable, once the engine is started, to check the exhaust at the transom. You should see a surge of water every few seconds.

5 - Visually Inspect the Engine Room

While doing other checks, it is a good idea to take a look around the engine space and the bilges for anything that may be out of place.

6 - Check DC Panel

Check the DC panel to insure that the house bank has a reasonable charge (12.2V or greater). If there is any problem, now is the time to learn of it. Make sure the DC main breaker is ON, as well as any other circuits that you might need in the course of your trip. If you need the searchlight in a hurry, for instance, it's better to have the breaker already on. Note that the depth-sounder breaker acts as its switch, and should be on *before* the chart-plotter.

7 - Turn On Navigation Instruments

Make sure the depth sounder is ON, then turn on the chart-plotter, VHF, etc. Some instruments do not have power switches and are turned on at the panel. It is always a good idea to bring paper copies of applicable charts and to check your compass periodically.

8 - Check Lights

If the boat is to be operated after sunset or in reduced visibility or fog, check that the running/anchor lights and searchlight are all functioning. Switches for the running lights and the masthead/anchor light must be turned on when operating the boat, as the masthead does not automatically turn on when "running lights" are switched on.

9 - Start Engine

For cold-weather or first-time use, refer to the Owner's Manual. Turn the key to the right to start the engine. *Do not crank continuously for more than 10 seconds.* If the engine does not start, refer to the Owner's Manual and the engine manufacturer's manual. Any alarms should stop within 10 seconds of starting the engine. At this time, check the engine gauges to insure that they are functioning and displaying appropriate levels. (Oil pressures and temperatures may not read optimally until the engine is warm.)

10 - Check Maneuvering Aids

Turn ON the bow-thruster and, with a brief tap, insure that it is functioning. ⚠ CAUTION Make sure that no one is on the foredeck or handling a dock-line when this test is performed. Also check that the trim tabs are working properly, and that the steering turns smoothly from lock to lock.

11 - Final Checks

Before departing, make sure the engine and house batteries are being charged. (Note: by design, there is a delay between starting the engine and alternator charging.) Make sure your navigation plans have been prepared and that all equipment is functioning (even that which you don't necessarily intend to use). Check your fuel and water levels. Be sure the anchor is secured.

When you are confident that everything is in order, cast off all dock lines and *bon voyage!* Remember when maneuvering that short bursts of idle throttle are usually sufficient to move the boat.