

OPERATIONS MANUAL



For 27' Ranger Tug "Blue"

Welcome aboard!

We are happy you have chosen "Blue" for your vacation. We are sure you will enjoy cruising the islands of the Pacific Northwest.

Blue is spacious and well-equipped with a cabin boasting a full galley, sleeping accommodations for up to 4, marine head with electric flush and nearly 50 square feet of aft deck space. You can truly enjoy life on the water in this Ranger Tug 27. Experience classic tugboat appeal in this mint condition, fuel efficient, fully equipped little yacht.

We trust this manual will help you become familiar with this boat. If you have questions about the boat or about places to visit, please do not hesitate to ask the AYC staff.

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BOAT OPERATION

Engine Inspection

Remember your “**WOBBS**” every morning. **W**ater (Coolant), **O**il, **B**ilges (Inspect and Pump-out), **B**elts and **S**ea Strainer.

Check the level of **COOLANT** in the expansion tank located forward of the engine in the cockpit under the floor. Check the level of OIL in the engine by checking the dipstick located portside of the engine. Look at the etch marks on the dipstick that indicate the proper oil level. **DO NOT OVERFILL OIL!** Only fill if the oil level is below the ½ way mark. Please use paper towels or oil rag, not the dish towels! Check the general condition of the **BELTS, HOSES** and **FUEL LINES**.

Ensure the valve on the **RAW WATER THRU-HULL** is in the “**open**” position (lever in-line with valve). Observe the glass of the **RAW WATER STRAINER** for debris. If necessary, close the seacock, open the strainer cover, clean the strainer and reassemble. Remember to reopen the seacock.

Start-up

Before starting the engine, do your inspection. Ensure the **GEARSHIFT** is in “neutral” or the engine cannot be started because of the “neutral lockout”. **THROTTLE** should be run and down and then brought almost back to the idle position. Ensure you have the house, engine and thruster batteries turned on. These are located in the aft port Lazarette. Place the FOB next to the ignition switch, once powered up, the ignition light will illuminate. You can now press the starter button.

If the engine cranks slowly, or fails to turnover, check the condition of the battery on the **ELECTRICAL PANEL**. If the battery is low, try the **BATTERY PARALLEL SWITCH** located in the port Lazarette to connect the other battery. Turn off after using.

Move the **THROTTLE** to raise the engine speed to 1000 RPM on the **TACHOMETER**. Warm the engine for about 5 minutes before engaging transmission. Observe the readings of the gauges. The oil pressure will register about 70 PSI. The engine temperature should rise slowly. Ensure that cooling water is being discharged.

Note – If oil pressure is low, shut down the engine, and inspect engine compartment and look for possible cause (for example, loss of oil). Caution – if the engine is overheating or there is a lack of raw water expelled in the engine exhaust, stop the engine immediately. Recheck the raw water-cooling system to ensure the seacock is “open” (handle in line with valve). Next, check the raw water strainer for debris. Remove the strainer, clean, re-assemble and reopen the raw water valve (seacock). Restart the engine and re-check water flow from the exhaust. If water is not flowing properly, the RAW WATER PUMP may need to be serviced. Seek help!

Bow and Stern Thrusters

Blue is equipped with Bow and Stern thrusters adding additional control to a single engine boat. The Bow and Stern thrusters are controlled by joysticks located at the helm station. Verify the thrusters are functional before leaving the dock. Make sure to press both power buttons. Keep in mind that they are designed for short bursts and will “time out” in about 6 minutes.

Cockpit Table

The table in the cockpit is provided with a vinyl cover to protect the finish from sun and salt. Please remove before use and re-install upon the completion of your cruise.

Trim Tabs

Turn-on “Trim Tabs” breaker located on the DC panel.

Shut-down

Before shutting down, allow the engine to “idle” for about 5 minutes to cool it gradually and uniformly. The time engaged in preparing to dock the boat is usually sufficient. Ensure the GEARSHIFT is in the “neutral” position. Turn off the engine by pressing the “stop” button.

Getting Underway

DISCONNECT the shore power cord (see 110 Volt next page). Close the PORTHOLES, WINDOWS, and THE FORWARD HATCH. Turn on your VHF and electronics. Assign crew members their various positions. Once outside the marina, idle the engine while the crew brings in fenders and lines.

Cruising

All close quarters maneuvering should always take place at the helm.

Engage the **GEARSHIFT** to the first detent, either forward or reverse. Once past the detent, you are in throttle mode. Cruising speed is a maximum of **2400 RPMS**. If you run at 2200 RPMS, you will cruise at 8 knots and use only 2.5 gallons of diesel per hour. Your speed will vary depending upon the weight and load and weather conditions. TRIM TABS can be put in the “bow down” position to increase efficiency and improve forward visibility.

Note – Avoid higher engine speeds as it causes higher engine temperatures, possible damage and higher fuel consumption.

Docking

During docking, have your crew make ready the lines and fenders and give clear instructions on how you will be docking. Often times your crew will need to step off from the swim step with the stern line. Another crew member will need to be at the bow or mid-ships to hand over the next lines.

Rock TRIM TABS switches to the 'bow up' position (8-10 seconds) to make slow-speed backing and turning easier. While moving slowly to the dock or mooring location, you will need a combination of steering wheel and bow/stern thruster inputs. The Bow and Stern thrusters are controlled by joysticks located at the helm station. Make sure to press both power buttons. Keep in mind that they are designed for short bursts and will "time out" in about 6 minutes.

Fueling

OPEN FILLER CAP located on the stern rail, starboard side.

MAKE SURE YOU HAVE THE RIGHT FUEL! DIESEL! DIESEL! DIESEL! MAKE SURE IT IS GOING INTO THE RIGHT DECK FILL! **DOUBLE CHECK!**

Before pumping, have an oil/fuel sorbs handy to soak up spilled fuel. You should have a rough idea of the number of gallons you will need by the engine hour indicator. Also periodically have someone turn on the key to watch the fuel gauge.

Place the **DIESEL** nozzle into the tank opening, pump slowly and evenly, and note the sound of the fuel flow. Pumping too fast may not allow enough time for air to escape, which may result in spouting from the tank opening. As the tank fills, the sound will rise in pitch or gurgle. Pay attention to the TANK OVERFLOW VENT on the outside of the hull near the tank opening. The sound may indicate the tank is nearly full. Top off carefully. Be prepared to catch spilled fuel. Spillage may result in a nasty fine from law enforcement.

Replace the tank cap. Caution – Clean up splatter and spillage immediately for environment and health reasons. Wash hands with soap and water thoroughly.

BOAT ELECTRICAL

The electrical system is divided into two distribution systems: 110-volt AC and 12-volt DC.

The systems are controlled from the AC ELECTRICAL PANEL located at the helm station and the DC ELECTRICAL PANEL located at the helm station. The BATTERY SWITCHES are located in the forward port Lazarette. When not connected to shore power, batteries are providing all power. Therefore, monitor to use of onboard electricity carefully with your volt meter located at the helm and turn off electrical devices that are not needed.

Most breakers are labeled by colored dots. Green signifies "usually on". Red is "usually off". Blue dots are water pressure or water-related; like pumps. Yellow signifies electronics or items to use cautiously. No dots are breakers signifying irregular use or use with discretion.

110-Volt AC System

SHORE POWER supports all AC equipment and receptacles on board, as well as the battery chargers.

To connect to shore power, plug the 30 Amp POWER CORD into the boat (port side of cockpit, aft) and then into the dock receptacle. Check the power rating/plug size of the nearest dock receptacle (that is 50 Amp or 30 Amp). If necessary, add a CORD ADAPTER located in the starboard Lazarette. Turn the dock power on. Cords coming off the bow can be wrapped loosely around the bow line.

At the ELECTRICAL PANEL, flip the SHORE POWER BREAKER on. Check for reverse polarity. Then turn on the appropriate breakers for battery chargers, refrigeration, water heater and outlets. Watch your volt meter for load. If the load exceeds voltage, you will pop your breaker. If this occurs, wait to turn on one of your systems (i.e., water heater) until your use of volts drop.

If your outlets fail to work, check your GFI's to make sure they have not been tripped.

Inverter Power

The INVERTER provides AC power to the 110-volt AC plugs (i.e., microwave oven) when the boat is disconnected from shore power. The inverter does NOT provide power to the water heater or the battery chargers. Your inverter panel is located in the helm with an on/off switch. Make sure the switch is on. The actual inverter is located in the forward starboard Lazarette.

The inverter's power source is the DC house or inverter batteries located in the aft port Lazarette. The quantity of DC power is limited to the capacity of these batteries.... Therefore, running hair dryers, toaster, coffeepots, space heaters, etc. will quickly discharge the house/inverter batteries. Use these items VERY SPARINGLY! Monitor your battery usage carefully!

When connected to shore power, the inverter automatically becomes a battery charger for the 12-volt HOUSE BATTERIES. Should you detect the inverter failing to charge the house batteries, check the circuit breaker in the AC panel. And the inverter control panel. Also, there is usually a circuit breaker located on top of the inverter box.

House (12-volt) System

4 battery banks supply 12-volt DC power: (1) Engine battery, (2) Thruster battery, (3) House battery bank, (4) Inverter bank.

The 4 BATTERY SWITCHES are located forward in the forward port Lazarette. Normally leave the ENGINE and HOUSE SWITCHES in the 'ON' position. **Note – do not change the position of the switches while the engine is running or the alternator diodes will be damaged.** Change positions with the engine off.

Your 12-volt panel shows all the systems supported by your batteries. Primarily you will be turning on the breakers for your lights, water pressure, electronics, etc. Bilge pumps are as needed and are backed up with a high water alarm which can be tested at the helm station. Your breakers for propane should always be turned off after every use.

House Battery Bank & Switch

The HOUSE BATTERY BANK provides power for all DC systems, except the engine and bilge pumps. When disconnected from shore power, all 12-volt devices drain the house battery. Use devices as needed. The DC voltmeter can be switched Port, Starboard, and House Battery banks to measure charging or resting battery voltages.

When a battery bank is being charged, the voltage will read from about 13.1 volts to 14.4 volts depending upon state-of-charge of the battery bank. When the battery bank is at rest, (that is not being charged), the voltmeter can give a rough indication of the state-of-charge of the battery bank.

All batteries are charged by the engine ALTERNATORS while underway. The engine/house batteries are charged by the BATTERY CHARGER when connected to shore power. Ensure the Battery Charger and Inverter circuit breakers are ON.

Voltage (Wet Cell Battery)	Battery State
12.65 volts	100%
12.47 volts	75%
12.25 volts	50%
11.95 volts	25%
11.70 volts	0%

Battery Parallel Switch

Should the engine battery be insufficiently charged to start the engine, the house batteries may be momentarily connected to provide a boost. Rotate the BATTERY PARALLEL SWITCH located in the FWD port Lazarette. Turn off after the engine starts up.

SANITATION SYSTEM

Marine Toilet

Blue is equipped with an electric flush sea water toilet. Simply push the switch (located on sink cabinet) to flush the toilet.

It is important that every member of the crew be informed on the proper use of the MARINE TOILET. The valves, openings and pumps are small and may clog easily. If the toilet clogs it is YOUR RESPONSIBILITY!

Always pump the head for children, so you can make sure nothing foreign is being flushed.

CAUTION – Never put paper towels, tampons, Kleenex, sanitary napkins, household toilet paper, flushable wipes or food into the marine toilet. Use only the special dissolving marine toilet paper provided by AYC.

The TOILET THRU-HULL is located in THE CENTER OF THE ENGINE COMPARTMENT, if you need to shut off the water to the toilet.

Holding Tank

The sanitation HOLDING TANK holds approximately 40 gallons. Be aware of the rate of waste production (about 1 gallon per flush). With an overfilled tank, it is possible to break a hose, clog a vent, or burst a tank. The result will be an indescribable catastrophe and an EXPENSIVE FIX to you. Empty the tank EVERY OTHER DAY to avoid this problem.

The HOLDING TANK is located AFT OF THE ENGINE UNDER THE COCKPIT FLOOR. A holding tank gauge is located on the helm panel. Please check this often.

While a good indication of the volume in the waste tank, please also use the other methods outlined in this manual. The level of the holding tank can also be checked with a visual check with a flashlight or the “watermelon” test by thumping it.

The Holding Tank is Emptied in one of Two Ways:

1) At the Marine Pump-Out Station, remove the WASTE CAP located on the stern rail, port side. Insert the pump-out nozzle into the waste opening. Double-check your deck fitting! Turn on the pump and open valve located on handle. When pumping is finished, close lever on handle and turn off pump. Remove from deck fitting.

If there is a fresh water hose on the dock, rinse the tank by adding 2 minutes of water into tank. Then repump to leave the tanks rinsed for the next charter. This also eliminates head odors.

2) the tank’s contents can be discharged with the Johnson pumps MACERATOR but only in Canadian waters. The pump is controlled by the “Holding Tank” breaker in the DC panel.

Y-Valve

The Y-VALVE directs waste effluent into the sanitation-holding tank or flushes the effluent ‘directly overboard’. The Y-VALVE is located aft of the engine and mounted to the holding tank. The Y-valve is normally wired to direct effluent into the holding tank.

WATER SYSTEM

Fresh Water Tank(s)

The FRESH WATER TANK holds 50 gallons. Observe the water level by gauge located at the helm. Waste water from the sinks and showers drains overboard through various thru-hulls usually located under sinks which are above the waterline.

To refill the water tank, remove the WATER CAP located on the starboard side. Avoid flushing debris from the deck into the tank opening. DO NOT fill water and diesel at the same time.

Fresh Water Pressure Pump

The WATER PRESSURE PUMP is located in the starboard Lazarette. Activate the pump at the DC panel by turning on the breaker. If the water pump continues to run, you are either out of water or might have an air lock and need to bleed the system by opening a faucet. If you run out of water SHUT OFF YOUR HOT WATER HEATER on the AC panel. Serious damage can occur.

Hot Water Tank

The HOT WATER HEATER has a 12-gallon capacity tank and is available when connected to shore power or via a heat exchanger underway. To use on shore power, flip on the water heater circuit breaker on the AC electrical panel. Do not use the water heater if the water tank level is very low. The water heater is located in the starboard Lazarette.

Shower

Before taking a SHOWER, make sure water pressure and sump breakers are on. Take only short Navy showers (turning off water between soaping and rinsing). To keep the shower tidy wipe down the shower stall and floor. Check for accumulation of hair in the shower and sink drains. An ADDITIONAL FRESH WATER SHOWER is located in the cockpit port side. Ensure the faucets and nozzles are completely off after use to save fresh water.

A pressure RAW WATER WASHDOWN is available from a hose spigot in the cockpit port side. To activate, flip the PUMP ROCKER SWITCH located on the port side cabinet in cockpit. After use turn the switch off to prevent pump burn out, and ensure no object leans on the switch to turn it on accidentally.

GALLEY

Stove/oven

The stove and oven are powered by propane. Turn on the “stove” breaker on the AC panel. Your propane stove is activated by the following steps:

- #1 Normally left on but if required turn on the propane-tank located in the locker on the swim-step.
- #2 Turn on the solenoid switch located by the sink in the galley.
- #3 Turn on the gas at the stove (Press in knob) and light burner. You might need to hold knob for a few seconds while the thermocouple warms up. The same applies to lighting the oven. When finished cooking, turnoff the solenoid switch.

Refrigerator

The REFRIGERATOR is dual voltage (12-volt DC and 110-volt AC) power. It will automatically use 110-volt AC power when the shore power is connected; otherwise, it will operate on 12-volt DC power. Monitor the use of the refrigerator when the engine is not charging the 12-volt battery system. The local power switch is located below the front door of the refrigerator. It can be turned down to the lowest setting when anchored or moored or turned off when turning in for the night.

HEATING SYSTEM

Diesel Heater (DC)-If Heater fails to start, raise voltage by starting engine

Note: Heater has a built-in delay to start. Please expect 3-5 mins for heat after green light appears.

***Please leave all vents open.**

The DIESEL FORCED-AIR FURNACE located on the port side provides heat in the same way as a household furnace. Press the button located on the port side by the entry to the v-berth. Set the THERMOSTAT to the desired temperature.

Check the FURNACE EXHAUST PORT located on the port side of the hull midships for any obstruction such as fenders or lines. DO NOT block this opening when operating the furnace. Heat will damage fiberglass or rubber. Once it is turned on, allow it to run for at least 15 minutes before turning it off. Turn ‘off’ the furnace heater by turning down the thermostat. Let the unit cool off, and then turn off the switch.

Built-in Cabin Heat (AC)

ONE ELECTRIC HEATER is available when connected to shore power or while underway. It is located under the helm seat and is controlled by a switch under the throttle quadrant.

Note: This heater circulates engine hot water only.

ELECTRONICS

GPS Plotter

Make sure the GPS/PLOTTER and NMEA 2K breakers are on, located at the DC panel. Push the power key to turn on the unit. To turn off the unit old the power key and acknowledge shut down.

VHF RADIO

The primary VHF RADIO is located in the panel at the helm. If not already on turn on the NMEA 2K breaker located at the DC panel. To turn on the unit push the red button 16/9. Always monitor Channel 16 while underway. The VHF radio has the capability of a loud hailer and talk back to crew working on the foredeck. While in this mode the radio WILL NOT be monitoring normal radio channels. When finished return the radio to normal operation.

A second VHF marine band radio located above the helm which may be left on Channel 16 to monitor radio traffic. The built-in Garmin has the capability of all other functions

Depth Sounder

There is one DEPTH SOUNDER. It is part of the chart plotter at the helm.

Radar

To operate the GARMIN RADAR press he home button and select radar. Turn on transmit to spin up radar dome, back to standby before turn radar off.

Remember you are not allowed to travel in FOG, at night or in serious wind conditions.

Autopilot

If not already on turn on the NMEA 2K breaker located at the DC panel. And turn on unit by pushing power key.

All electronic manuals are located in a black bag in the mid cabin.

ENTERTAINMENT SYSTEMS

AM/FM Stereo Radio

The Fusion brand radio unit is located in the port side forward cabin bulkhead. It operates like a normal car radio. There are 4 speakers (stereo) in the salon. The FADER controls the distribution of the salon speakers. The BALANCE controls the sound distribution in the left and right speakers.

TV/DVD Player

A TV/DVD player is mounted above the entry to the v-berth. To use, power on with the remote control located in the storage cabinet above the port helm seat.

ANCHORING

The primary WORKING ANCHOR is a Claw and is attached to 50 feet of chain and 200 feet of nylon line passed through the deck from the ANCHOR LOCKER. The locker can be accessed through the cover in the bow. If there is an anchor keeper, release it.

There is an anchor control switch at located at the helm; these controls operate the same as the foo switches at the bow. The WINDLASS POWER SWITCH is also the BOW THRUSTER SWITCH located in the port Lazarette. At either switch location, tap gently on the 'down' control to lower the anchor. If necessary, guide the anchor over the anchor roller to prevent binding on the pulpit.

Let out sufficient ANCHOR RODE (chain and nylon line) before setting the anchor. If the anchorage is crowded, put down a least a 3 to 1 scope (60 feet for 20 feet of water), power back slowly to set the anchor with a short burst from the engine. Colored markers are placed on the chain and nylon line indicating amount of rode:

RED	25 FT.
RED/WHITE	50 FT.
RED/WHITE/RED	75 FT.
RED/WHITE/RED	100 FT.
RED/WHITE/RED	125 FT.
RED/WHITE/RED	150 FT.
RED/WHITE/RED	175 FT.
YELLOW	200 FT.

Then let out additional scope upon conditions.

Before raising the anchor, **ALWAYS start the engine as the windlass uses a large amount of power.** Turn 'on' the WINDLASS SWITCH and as the boat moves toward the anchor, press the 'up' control to take up the slack line. Give the windlass short rests as you are pulling it up. If required place yourself in-position to guide the anchor on the roller. As the anchor rises, be careful not to allow it to swing against the hull. Close the plastic covers on the FOOT CONTROL PEDALS if used.

Anchor Bridle & Snubber

Two black 1/2" 3 strand lines are provided with a snubber. Use these to secure the boat when using a mooring ball. The snubber and line should be used when anchoring to take the strain off the anchor windlass.

A SPARE DANFORTH ANCHOR and rode is stowed in the starboard lazarette.

Stern Tie Reel

The stern tie reel and line are provided when it is necessary to stern tie in steep anchorages. 600 feet of yellow floating line will be found on the reel. Please keep the cover on the reel when not in use.

MOORING CANS

The Washington State Park sticker on your vessel allows you to pick up the MOORING CANS in the parks for free. You only need to register at the kiosk usually located at the heads of the docks. Mooring cans have a metal triangle at the top upon which is a metal ring. The metal ring is attached to the chain which secures your boat. IT IS VERY HEAVY! The strongest member of your crew should be picked for this job.

Come up to the CAN into the wind as you would for anchoring. Have crew members on the bow, one with a boathook and one with a line with bowline in one end. As you are coming slowly up to the can have the crew holding the boathook point at the can with the hook so the skipper always knows where it is. Hook the can and bring the ring up to the boat to allow the second crew to thread the ring with the line. Lead all lines outboard, under all lifelines. Release the hold with the boat hook. If your mooring line is led out the starboard chock (end secured to a cleat) bring the other end of the line back through the port side. After bringing the end through the port chock, secure it to the port cleat. You will essentially create a bridle with about 10 feet of slack from the chock to the can.

BARBEQUE

The BARBEQUE is mounted on its bracket on the aft port rail.

The propane is fed to the barbeque from the locker on the swim step. Carefully light the barbeque, preferably, with long-stem butane lighter. The barbeque generates a lot of heat and cooks hot and fast. Allow the barbeque to cool down, please wipe it down with a paper towel before installing the cover to prevent grease and dirt from soiling the boat.

CRABBING & FISHING

Always check the fishing and crabbing requirements before you leave on your cruise. You will need a license. Many areas are CLOSED to crabbing and fishing in certain months.

CRAB AWAY FROM THE BOAT! Lines can get wrapped around props. Fish-flavored cat food with the pop-up ringed lids work best for a nice neat way to bait the ring. After 15-20 minutes, retrieve the crab line and ring quickly. Measure the crabs using the CRAB MEASURING GAUGE normally located in the starboard cockpit cubby. Keep the male crabs of proper size (usually 6-1/4 inches across the carapace). Boil crabs about 12 minutes to cook.

After using, wash equipment thoroughly with fresh water (available from the cockpit shower faucet).

Note – Please do not store wet rings and gear inside the boat.

DINGHY AND OUTBOARD MOTOR

Your 7' 10" Aluminum RIB DINGHY with a 6 HP Tohatsu outboard engine is stored horizontally on davits mounted on the swim step. It has a capacity of approximately 880 pounds (motor, equipment and 3 people). Attach the bow line (painter) from the dinghy to a cleat on the boat. Coast Guard regulations require that any child 12 and under must wear a life jacket in a dinghy. EVERYONE should wear a life jacket.

To deploy the dinghy

1. Make sure the dinghy plug is installed.
2. Plug in the winch controller (located in the starboard step cabinet) into the plug located on the port side of the aft lazarette box.
3. Push the winch control UP button to remove tension on the securing line.
4. Release the securing line (from the boat) to the davits
5. Push the winch control DOWN button and lower the dinghy and motor into the water with the electric winch. (Note -- It will get heavier as it nears the water).
6. With the dinghy afloat, release the bridle line clips from the boat.
7. Push the winch control UP button until it reaches the stop, this will get the davits out of the way.
8. Ensure you have life jackets in the dinghy

To start the outboard

1. Ensure the RED lock-out key (located at the helm) is installed on the outboard.
2. Set the fuel cock lever to which tank you are using, integral tank or external tank.
3. Open the vent valve on the top of the integral fuel tank or the external tank.
4. If using the external tank, squeeze the fuel line bulb until the bulb is hard.
5. Pull out the choke
6. Pull the starter rope, let the outboard warm-up and push in the choke.
7. Make sure there is water exiting the outboard at the back.
8. When ready shift (port side) the outboard into FWD gear, speed is controlled with twisting the tiller control.

To retrieve the dinghy –BOAT ENGINE MUST BE OPERATING TO OPERATE WINCH

1. Bring the dinghy along the swim platform (outboard on port end of platform)
2. Shut down the outboard by pushing the stop switch located at the front of the engine.
3. Attach the bridle lines to dinghy eyes
4. Exit the dinghy
5. Plug the winch controller into plug (if removed from earlier use)
6. Push the winch control UP button and raise the dinghy and motor out of the water with the electric winch.
7. Bring the winch line up to the black stop and attach securing line from davit to boat.
8. Lower dinghy so weight of dinghy, davits and motor is on securing line.
9. Remove winch controller and return to storage location.

Coast Guard regulations state that any child 12 and under must wear a life jacket in a dinghy. EVERYONE should wear a life jacket.

OTHER: SAFETY & BILGE PUMPS

SAFETY should be paramount in your daily cruising. A MAN OVERBOARD DRILL should be discussed and practiced with a life jacket. Remember your life jackets are stowed in the forward berth. Life jackets should be readily accessible for all on board and not stored in plastic bags. Your flares and safety equipment are located in the storage cabinet above the port helm seat.

Blue is equipped with 2 BILGE PUMPS. The master switch is located on the electrical panel. Normally the switch will be left in the OFF position.

The ENGINE SPARES BOX is stowed in the port Lazarette. This includes oil filter, raw water impeller, pump parts, fluids and other small parts.

THRU-HULL LOCATIONS

Blue is unique in that she only has one thru-hull. It is located in the engine compartment (starboard side) and has a green lever. It is attached to a "treasure chest" which also contains the raw water strainer. All other drains are above the water line so do not require thru-hull valves.