

OPERATION MANUAL

Serendipity



Welcome aboard *Serendipity*

We are happy you have chosen Anacortes Yacht Charters for your vacation. We are sure you will enjoy cruising the lovely waters of the Pacific Northwest.

We hope you will enjoy your time on *Serendipity* as much as we do. You will find *Serendipity* is very maneuverable and easy to pilot in close quarters.

Serendipity cruises very economically at around 8-knots but has the power to reach up to 15 knots if necessary. The open interior and large windows will give you 360-degree visibility and make *Serendipity* feel much larger than she is.

Serendipity has a full galley including a microwave and 6-bottle wine/beverage cooler.

We trust this manual will help you become familiar with the 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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LOCATION OF KEY ITEMS

FOR COAST GUARD INSPECTION

- **Boat Documentation** – *Serendipity* is a U.S. Coast Guard Documented vessel. The NO #1235572 is permanently affixed to the hull, inside the Engine Compartment. In the event you are boarded by the Coast Guard or other Law Enforcement agency, the Certificate of Documentation is located in this manual under the Documentation section.
- **PERSONAL FLOATATION DEVICES** – Four adult life vests are located in the forward stateroom locker. Four Adult, two Youth, and two Child life vests are hanging in the Mid-berth.
- **THROW CUSHION** – One Throw Cushion with whistle is located in the cockpit.
- **FIRE EXTINGUISHERS** – There are two. One mounted in the Mid-berth entry and the other in the Forward Stateroom.
- **VISUAL DISTRESS SIGNALS** – Flares (in orange box) and 2 air horns are located in the bottom of the Mid-berth Hanging Locker.
- **BELL, NAV LIGHTS and BOAT HORN** – Located at Helm.
- **POLLUTION PLACARD** – Mounted in Engine Compartment (under cockpit hatch) on port side.
- **MARPOL Trash Placard** – Mounted inside cabinet under Kitchen Sink on right side next to Oven.
- **CARBON MONOXIDE STICKER** – Located on back window next to door.
- **NAVIGATION RULES AND STATE/LOCAL REQUIREMENTS** – Located in Bookshelf on port side of Dinette.

OTHER ITEMS

- **EPIRB (Distress Beacon) – Aft end of Main Cabin next to door.**
- **TOOL BOX & SPARE PARTS – Under forward cushion of Forward Stateroom bed.**
- **MISCELLANEOUS TOOLS – Wire Ties, Tape, Hammer, Tie-down Straps etc. In black plastic bin in starboard Lazarette**
- **FIRST AID KIT – Head Compartment on port side shelf**
- **THRU HULL PLUGS – Engine Compartment next to the Seacock**
- **WINDLASS WRENCH – In Anchor Chain Locker**
- **OWNERS MANUALS – Black Ranger Tugs Briefcase in Mid-berth port side shelf**
- **PAPER CHARTS – Port Side Helm Basket**
- **CANADIAN FLAG – In Overhead Cabinet on port side of Helm**
- **15 & 20 AMP POWER ADAPTERS – In the Mid-berth port side shelf**
- **CLEANING SUPPLIES – cockpit cabinet under ice chest**
- **HATCH WINDOW SCREENS – Mid-berth, Deck Hatch under mattress**
- **DINGHY GAS CAN, BBQ PROPANE TANKS, FUNNEL AND SPARE OILS – Storage bin on swim step**
- **BBQ and BBQ tools – Cockpit cabinet under sink**
- **TWO 25' WHITE HOSES for fresh water connection/fill only - Starboard Lazarette**
- **60' HOSE FOR WASH DOWN – Starboard Lazarette**
- **SPARE ANCHOR, CHAIN & RODE – Starboard Lazarette**
- **4 FOLD-OUT DECK CHAIRS AND TABLE – Port Lazarette**
- **DINETTE FILLER CUSHION – Port Lazarette**
- **DINGHY COME-ALONG – Cockpit cabinet under sink**

BOAT OPERATION

Engine Inspection

Remember your “**COBBSS**” every morning: Coolant, Oil, Bilges (Inspect and Pump-out), Belts, Sea Cock, and Sea Strainer.

The engine hatch is hydraulic and is opened and closed from the bottom left switch on the circuit panel appropriately labeled “Engine Hatch”. If this ever fails to operate you can manually open and close the hatch cover, **BUT BE CAREFUL**, if you open manually you must close manually because there will be no hydraulic pressure built up and the hatch will drop like a rock if you don't hold onto it.

Check the level of **COOLANT** in the overflow reservoir. The reservoir is located in the engine compartment starboard side, accessed from the cockpit hatch. The coolant level should be anywhere between the two lines on the reservoir.

Check the level of **OIL** in the engine by checking the dipstick located at the forward port side of engine. The dipstick has a red handle and is accessed by opening the hatchway in the salon by the door. Look at the etch marks on the dipstick that indicates the proper oil level. **DO NOT OVERFILL OIL!** Overfilling is a bad thing to do to a diesel engine. The excess oil will escape somehow, perhaps by blowing a head gasket. Oil is filled at the top of the engine. Only fill if oil levels are below the ½ way mark. Use the onboard spare oil to add no more than a cup at a time. Then check the level again. Please use a paper towel or oil rag, not the dish towels! Expect the oil to be blacker than that of a gasoline powered automobile engine...this is normal for a diesel after only a few hours of operation.

Check the **BILGES** to be sure they are free of debris and oil. (A small oil sheen on a small amount of water is normal.)

Check the general condition of the **BELTS**, **HOSES**, and **FUEL LINES**.

Ensure the valve on the RAW WATER **SEA COCK** is in the ‘**open**’ position (lever in-line with valve). Observe the glass of the RAW WATER **STRAINER** for debris. If necessary, close the sea cock, open the strainer cover, clean the strainer, and reassemble. Remember to reopen the sea cock.

Start-Up

Before starting the engine, do your inspection. Ensure the **THROTTLE** is in ‘neutral’, or the engine cannot be started because of the “neutral lockout”. Insert key into the **IGNITION SWITCH**.

Turn the key clockwise partially until the **ENGINE ALARM** sounds. Once the beep stops, turn the key fully clockwise to start the engine. If the starter does not engage when the key is turned, move the gearshift lever slightly until you find neutral and try again. Be sure the **EMERGENCY STOP LOCK PLATE**, located below the ignition, is inserted fully. Expect the engine to start within 2 seconds. If the engine doesn't start after 5 seconds of cranking, turn the key to the left and remove it. Wait 15 seconds and try again. Never turn key longer than 10-seconds, starter damage will result.

If the engine cranks slowly or fails to turn over, check the condition of the battery on the ELECTRICAL PANEL. If the battery is low, try the BATTERY PARALLEL ROTARY SWITCH located in the port side lazarette to connect the other batteries. The parallel switch can draw power from the House Batteries (#1), the Thruster Battery (#2) or from both 1 and 2. Turn off Parallel Switch after engine starts.

VERIFY THAT WATER IS BEING EXPELLED FROM THE EXHAUST.

AVOID RUNNING THE ENGINE AT IDLING SPEED ANY LONGER THAN NECESSARY and run engine at low speed under moderate load for approximately 5 minutes. Note - A light load on a cold engine provides better combustion and a faster engine warm-up than no load.

Observe the readings on the gauges. The oil pressure will register about 37 PSI. The engine temperature should rise slowly to about 200 degrees.

Note -- If oil pressure is low, shut down engine, and inspect engine compartment and look for possible cause (for example, loss of oil.) Caution -- If an engine is overheating or there is lack of raw water expelled from 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. If there is debris, CLOSE THE RAW WATER SEACOCK, unscrew the clear bubble top of the strainer, remove the foreign material, screw the clear top back on the strainer and open the RAW WATER 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.

Operation

260 HP Yanmar engines are very reliable. Optimal cruising speed is obtained at 2000 RPM which will result in about 8 knots with fuel consumption < 3 GPH, but is highly variable based on tides, wind and loading of the vessel. **DO NOT EXCEED 3300 RPM** on the engine. Running at 15 knots will increase fuel consumption **DRAMATICALLY**, so slow down and enjoy the cruise! Most destinations are fairly close together in the San Juan Islands.

To avoid the possibility of sucking air or sludge when the fuel level approaches 1/4 of a tank, refuel when the fuel drops below half full and before it reaches 1/4 full.

Engine Overheating: If the buzzer sounds while the engine is running, about 99 times out of a 100, it is no more serious than eelgrass plugging up the raw water strainer. The best solution to this problem is prevention. Keep an eye out for eelgrass mats especially along those "soapy" looking tides and eddy lines in the water, and don't run over it. When eelgrass gets sucked into the engine cooling water intake, it jams at the raw water strainer.

To clear the eelgrass from the raw water strainer, stop the engine, open the engine hatch, CLOSE THE RAW WATER SEACOCK, unscrew the clear bubble top of the strainer, remove the foreign material, screw the clear top back on the strainer and open the RAW WATER SEACOCK. Restart the engine.

If upon restarting, the engine overheats again, check the strainer to make sure it is drawing water in to about 3/4 full. If not, grass could be plugging the opening in the hull. This requires diving under the boat to clear the eelgrass, so you should contact Anacortes Yacht Charters.

If the above fails to solve the problem, contact Anacortes Yacht Charters for assistance.

There may be other reasons you hear the buzzer. If you lost oil pressure, the oil icon warning light will light up, so check which light is showing red. If it's the oil light, shut down the engine, check the oil level and contact Anacortes Yacht Charters. The alarm buzzer is more likely to indicate engine overheating, and the temperature icon light will light up. Before you shut down the engine, check for water gurgling out the engine exhaust. If you have a "wet exhaust", check the coolant level in the overflow reservoir and if no coolant is seen, add enough coolant to reach the "full" line of the bottle. Check the bilge for coolant. If coolant is found, contact Anacortes Yacht Charters. If the coolant reservoir is full, check to see if the engine threw a belt. Without a belt on the raw water pump, the raw water won't circulate and cool the engine. (Replacement belts are located in the spare parts box, under the forward bed.) Another possibility is the impeller in the raw water pump has failed. (A replacement impeller is found with the engine spares.) Contact Anacortes Yacht Charters if you suspect you have an impeller problem.

Shut-Down

Before shutting down, allow the engine to idle for about 2 minutes to cool gradually and uniformly. Ensure the THROTTLE is in the neutral position. Turn off the engine by turning key switch to the OFF position. Never use the EMERGENCY STOP switch for normal shut down.

Getting Underway

Turn off the ProMariner Charger at Controller, then turn off AC main on panel, turn off breaker at shore, then DISCONNECT the shore power cord (see 110-Volt on page 10). Close the PORTHOLES, WINDOWS, and HATCHES. Turn on your VHF (channel 16) and electronics. ASSIGN crew members their various positions and tasks. Verify Thrusters are turned ON. Note - when pulling away from the dock, make sure dinghy is clear of any shore-side obstacles such as cleats and pilings, otherwise it may hit and possibly damage the dinghy. Once outside the marina, idle the engines while crew brings in fenders and lines.

Cruising

Engage the THROTTLE and slowly advance to the desired cruising speed. Optimal cruising speed is about 2000 RPM. If you run at 2000 RPM you will cruise at about 8 knots and use less than 3 gallons of diesel per hour. Your speed will vary depending upon the weight and load and weather conditions. TRIM TABS can be adjusted to bring the bow down and to level the boat.

Note -- Avoid higher engine speeds as it causes higher engine temperature, possible damage, and higher fuel consumption. Yanmar recommends running below 3300 rpm for 90% of engine hours.

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. The helmsman can handle the midship line through the pilot house door, and if available, a crew member can be at the bow to hand over the bow line.

Turn the bow and stern thrusters on prior to docking (thrusters will shutoff automatically after about 5 minutes so you may need to reactivate them. While throttle is in NEUTRAL, use the bow and stern thrusters IN SHORT BURSTS to prevent overheating the thruster motors. Use thrusters separately, not together, to prevent excessive battery draw.

Fueling Up

The MAIN diesel tank fuel fill is located on the starboard side mid ships, aft of the sliding door. It has a twist off cap marked DIESEL. The AUXILIARY diesel tank is used primarily for the cabin heater. Fuel fill for the auxiliary tank is located on the transom left of the transom gate and also has a twist off cap marked DIESEL. The vents are just below the fills and must be monitored during the fill process. In a low fuel emergency you can transfer fuel from the AUXILIARY tank to the MAIN tank via an electric pump in the starboard lazarette but it is very tedious. The valve and pump are forward above the batteries. Move the valve selector switch in line with “transfer” and manually activate the pump at the labeled switch next to the pump. Note - this should only be done in emergencies.

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

Before pumping, have oil/fuel sorbs handy to soak up spilled fuel. To determine how much fuel you need to fill the tank (max 120 gal but to avoid spills calculate for **110 gal**), go to the Garmin touch screen and then to Navigation Charts and on the screen it will show how much fuel is left. You can also select Information from the Main screen, then Engines and look for "Total Fuel" to see how much fuel you have. This will let you know how much fuel to add in order to fill tank (i.e.; if total fuel shows 80 gal then you need approximately 30 gal to fill the tank). This is a good estimate, but actual amount may vary. Pay attention to sound of tank as you approach max fuel estimate.

Place the DIESEL nozzle into the tank opening (be sure you are filling the main tank on starboard side first and not Auxiliary tank located on stern), 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 that the tank is nearly full. Do not top off, and be prepared to catch spilled fuel. **Spillage may result in a nasty fine from law enforcement.** If you need to fill the Auxiliary tank then lift the Engine hatch and have someone visually view the tank as it is being filled.

Replace each tank cap. *Caution -- Clean up splatter and spillage immediately for environmental and health reasons. Wash hands with soap and water thoroughly.*

Upon filling the MAIN diesel tank reset the GARMIN screen to the new amount as follows:

Home Page > Information > Engine > Menu (top right of screen) > “Add Fuel” Enter the gallons added to main tank only. Do not include any fuel added to auxiliary fuel tank.

IF YOU DON'T ENTER THE FUEL ADDED ON THE GARMIN, THE READINGS WILL BE INACCURATE.

***Note:** Unlike automobile fuel gauges, fuel gauges on boats are notoriously inaccurate. Therefore, whenever the fuel level drops below half full, you should refuel at your next opportunity. NEVER let the fuel fall below 1/4th full or you are in danger of running out of fuel. (Towing, and the cost of a mechanic to bleed the air from the fuel lines, is an expensive proposition for a charter guest.)*

BOAT ELECTRICAL

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

The AC/DC ELECTRICAL PANEL is located in the aft of the main salon. Most switches on the panel board are labeled and are self-explanatory, but some circuits are unique. When not connected to shore power, batteries are providing all power. Therefore, monitor the use of onboard electricity carefully with the volt meter located on the aft wall of the dinette, and turn off electrical devices that are not needed.

110-Volt AC System

SHORE POWER supports all AC equipment and receptacles on board, as well as the battery charger. Before connecting to shore power, ensure the circuit breaker switch on the ELECTRICAL PANEL labeled AC MAIN is in the off position.

To connect to shore power, be sure the plug is completely dry and the breaker on the dock is OFF before starting this procedure. Plug the **30 amp** POWER CORD into the boat receptacle on the starboard cabin side. If the cord won't reach the dock receptacle from that location, you can plug into the cockpit receptacle, and then switch the selector under the cockpit bait well/cooler, on the port side to "Cockpit". Check the power rating/plug size of the dock receptacle (that is 50 amp, 30 amp, 20 amp, or 15 amp). You can only plug a 30 amp plug into a 30 amp receptacle. There are two power adapters in case you are at a marina with 15 or 20 amp power outlets. These adapters are in the Mid-berth port side shelf. Cords coming off the bow can be wrapped loosely around the bow line. Plug into the dock receptacle, and then turn the dock power on.

At the ELECTRICAL PANEL, flip the AC MAIN breaker on. Check for reverse polarity. If the red light is on, turn off the breaker and contact the marina. If polarity is correct, turn on the breaker for Battery Charger.

After the Battery Charger circuit breaker has been turned on, turn the ProMariner battery charger switch to the "Auto/Standby" position (Red switch up) at the controller, located just aft of the settee in the salon. If you don't have AC voltage showing on the AC Meter, check the circuit breaker inside the locker under the cockpit bait well/cooler, on the port side. It is above the Shore Power Selector switch. If that breaker is tripped, turn off the ProMariner switch and Battery Charger switch before resetting the breaker.

Watch the volt meter for load. If the load exceeds voltage, you will trip a circuit 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 GFIs to make sure that they have not been tripped.

Should you detect the battery charger failing to charge the house batteries, check the ProMariner battery charger switch and the circuit breaker in the AC Panel. Also, there is a circuit breaker located on top of the charger/inverter labeled Inverter Reset.

Inverter Power

The INVERTER provides AC power to the 110-volt receptacle plugs and the microwave oven when the boat is disconnected from shore power. The inverter does not provide power to the battery charger. The inverter controller is the same one used for the battery charger. Place the red switch down to activate the Inverter. Make certain that it is on.

The inverter's power source is the DC house batteries located in the starboard lazarette. The quantity of DC power is limited to the capacity of the batteries. Therefore, running a hair dryer, coffeepot, space heater, etc. will quickly discharge the house/inverter batteries. Use these items VERY SPARINGLY when not connected to shore power! Monitor your battery usage very carefully!

Note - MAKE SURE WATER HEATER CIRCUIT BREAKER is OFF when on Inverter Power

House (12-volt) System

There are a total of six batteries that support 12-volt DC power, four for the HOUSE, one for the THRUSTERS and one for ENGINE START.

Battery voltage can be checked on the gauge located on the Circuit Panel aft of the main salon. The HOUSE batteries, ENGINE START battery, and THRUSTERS battery banks are selected via a switch to determine voltage. #1 is the HOUSE batteries, #2 is the ENGINE START battery, and #3 is the THRUSTER battery. You should not discharge below 12 volts before you recharge the batteries by (a) running the main engine or (b) plugging in to shore power with the charger breaker on. Note - Battery status indicator is only effective when not on shore power.

BATTERY SWITCHES are located in the port side lazarette. Under normal conditions, leave the top and bottom switches in the 'ON' position. ENGINE START and THRUSTER batteries should be turned on while preparing to get underway, and off when moored or anchored. The BATTERY PARALLEL switch should be off except to boost the ENGINE START battery as described below.

Note -- Do not change the position of the switches while the engines are running or the alternator diodes will be damaged. Change positions with the engines 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 Pump and Holding Tank circuits are for manual operation and should otherwise be left in the OFF position. (Bilge pumps are automatic and these switches are for manual override).

House Battery Bank & Switch

The HOUSE BATTERY BANK provides power for all DC systems, except the engines, thrusters, and automatic bilge pumps. When disconnected from shore power, 12-volt devices drain the HOUSE battery. Use devices as needed.

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 not being charged, the voltmeter can give a rough indication of the state-of-charge of the battery bank.

Voltage (AGM Battery)	Battery State
13.5 volts	100%
12.47 volts	75%
12.25 volts	50%
11.95 volts	25%
11.70 volts	0%

All batteries are charged by the engine ALTERNATOR while underway, and by the BATTERY CHARGER when connected to shore power. The Solar Panel will also charge the Engine and House batteries automatically.

Battery Parallel Switch

Should the ENGINE battery be insufficiently charged to start the engine, the HOUSE/THRUSTER batteries may be momentarily connected to provide a boost. Turn the BATTERY PARALLEL SWITCH located in the port side lazarette to the PARALLEL 1, 2 or Both position. Return the BATTERY PARALLEL SWITCH to the “off” position after the engine starts.

SANITATION SYSTEM

Marine 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, or food into the marine toilet. Use only the special dissolving marine toilet tissue provided by AYC.

Serendipity has a 40-gallon holding tank, and it will need to be emptied approximately every three days. The tank level is displayed on the toilet flush panel. (Green = empty, Orange = half full, Red = pump out) The lights on the toilet panel will time out and go dark to save energy if they have not been used recently. If dark, touch the button to activate.

If the toilet pump starts to resist your flushing efforts, STOP!! Exploding or leaking sewage is most unpleasant!! Search out the problem and correct it.

Holding Tank

The HOLDING TANK holds approximately 40 gallons and is located under the forward stateroom bed. 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 the tank. The result will be indescribable catastrophe and an EXPENSIVE FIX for you. Empty the tank EVERY THIRD DAY to avoid this problem.

At the Marine Pump-Out Station, remove the WASTE fitting, located aft of the starboard sliding door, using the deck fitting key on the Ranger Tugs key chain on a hook above the Galley Forward Shelf. Insert the pump-out nozzle into the waste opening. Double-check that it is the WASTE fitting! Turn on the pump and open the valve located on the handle. When pumping is finished, close the lever on the handle and turn off the pump. Remove the nozzle from deck fitting.

If there is fresh water on the dock, please rinse the tank by adding 1 minute (about 5 gallons) of water through the deck fitting and into tank. Then pump it out again to leave the tank rinsed. Thank you! This will also eliminate head odors. NOTE – Do not use the white hoses for this. Cross-contamination could result.

Serendipity has a macerator pump to push waste out of the discharge port on the port side. Pumping waste overboard is not legal in US waters, and is discouraged, and may be restricted in some Canadian areas.

If you must pump overboard, and you are in an area where you can legally do so, open the **Overboard Discharge Valve** located behind the teak hatch at the foreword end of the Mid-berth. The valve is secured with wire ties per U.S. Coast Guard rules, and must be secured again when you return to U.S. waters.

With the valve open, activate the switch on the electrical panel labeled MACERATOR. When finished pumping close the valve.

WATER SYSTEM

Fresh Water Tank

The FRESH WATER TANK holds 70-gallons of water. Monitor the water level by looking at the gauge located on the starboard side of the Stove/Oven directly above the Propane Tank Solenoid Valve.

The water fill is on the deck at the beam on the starboard side with a cap marked WATER. Avoid flushing debris from the deck into the tank opening. DO NOT fill water and diesel at the same time!

The fresh water hoses for filling the tank or connecting to a shore side water supply are located in the cockpit locker under the sink.

State Parks have no pressurized water to refill tanks, but all points of civilization do. If your crew does not let the water run continuously while they brush their teeth, shave or shower, you shouldn't have to refill too often.

Fresh Water Pressure Pump

Turn on the pump at the DC panel by turning on the breaker. If the water pump runs continuously, you are either out of water or may have an air lock and need to bleed the system by opening up a faucet. If you lose pressure on the kitchen faucet then unscrew the pullout handle and check the screen for debris. If you run out of water SHUT OFF YOUR WATER HEATER on the AC panel. Serious damage to the water heater can occur!

Shore Water Connection

On the starboard side of the boat is a white plastic cap covering a garden hose type connector. Connecting this to a dock side water spigot will allow you to use the public water supply without using the water pump or the water in your tank. The white hoses should be used for this purpose.

Hot Water Tank

The WATER HEATER is located in the port lazarette, and has an 11 gallon capacity tank. It is available when connected to shore power or via a heat exchanger while underway.

When on shore power, you can heat the water electrically by turning the WATER HEATER switch on the A/C Panel to the "on" position. It takes about an hour to heat the water electrically. When disconnecting from shore power, BE SURE TO TURN OFF Water Heater on the A/C Panel. Do not use the water heater with the Inverter, or if the water tank level is very low as it can cause serious damage to the water heater.

The water is also heated by engine heat when the engine is running. It takes about 15 minutes of running the engine under load to get the water hot.

CAUTION: The engine heats water to scalding temperatures!! It is regulated to normal temperature at the faucets and shower, but be CAREFUL around the water heater!!

Shower

Before taking a SHOWER, make sure the Water Pressure breaker is on. The sump pump for the shower is automatic. Take only very short “boat” showers (turning off water between soaping up and rinsing). To keep shower tidy, wipe down the shower stall and floor. Check for accumulation of hair in the shower and sink drains

The cockpit sink faucet can also be used for a shower. This is an ideal way to rinse off salt after a swim, or take a shower outdoors on a sunny day. Ensure that the faucets and nozzle are completely off after use.

Additionally, a SALT WATER WASHDOWN is available from a hose spigot in the cockpit. This is an ideal way to wash off sand or mud, and to clean the dingy, without wasting fresh water. To activate, flip the PUMP ROCKER SWITCH located portside of the cockpit cabinet. If no water flows, check the valve in the aft end of the engine compartment. After use, ensure no object leans on the switch to turn it on accidentally.

GALLEY

Sink

Serendipity is equipped with a double sink which is ideal for washing in one side and rinsing/drying in the other. Be sure to insert the drain stopper when washing dishes as pipes can clog easily with food. If this should occur, try using the plunger located outside underneath the ice chest. Alternatively try unclogging the cabin sink overboard discharge which is the forward starboard drain hole outside of the galley area (by waterline). Insert one of the bright orange twisty ties into the drain hole.

Stove/Oven

The stove and oven are powered by propane. The propane tank is outside underneath the aft sink wash-down inside a square plastic container. The valve is normally left open.

The propane feed is controlled by the propane fume detector/automatic safety solenoid valve located to the right of the stove. Ensure the green "Power on" light is illuminated at the valve controller. Turn on the safety solenoid by pressing the valve "on/off" button on the valve controller. A second green lamp should come on.

Refer to the lighting instruction on the inside of the oven door for lighting the burners or oven.

WHEN FINISHED USING Stove or Oven TURN OFF THE SAFTY SOLENOID VALVE.

Refrigerator/Freezer

The REFRIGERATOR is 12-volt DC powered and runs off the HOUSE batteries. The refrigerator must be turned on at the electrical panel. The temperature thermostat control dial (1-7, with 7 being the coldest) is located inside the refrigerator. Ideal setting is between 3 - 3.5. There is a small freezer compartment inside the refrigerator. Monitor the use of the refrigerator when the engines are not charging the 12-volt battery system. If not on shore power, suggest you switch off the Refrigerator Circuit in the evening in order to conserve batteries.

Wine/Beverage Cooler

The Wine/Beverage cooler is powered by the same DC circuit as the refrigerator. Temp will be slightly cooler on bottom shelves.

Microwave

The Microwave is powered on the 120-volt AC panel. The Microwave is protected by a GFI outlet behind the microwave, accessed through the vented panel in the mid-berth near the starboard reading lamp. If the microwave does not work, check the GFI. When not in use, suggest you keep Microwave circuit OFF.

BERTHS

Serendipity will sleep a maximum of six people – two in the forward cabin, two in the mid-berth, and two on the drop-down dinette, however we recommend the dinette berth be used only for children.

Converting the dinette into a double bed

This works best with two people; unlatch both black latches on the center post. Move the handle on the aft side of the table to port to adjust the table top fore and aft to align with the support rails adjacent to the cushions. Push down on the table top directly above the center post. Once the table is full down to the support rails, re-latch the black latches on the post. The table top cushion is stored in the port lazarette in a yellow plastic bag.

HEATING SYSTEM

Serendipity has two types of heating systems, the diesel-fired Webasto furnace and the Heatercraft main engine heat exchanger.

Webasto Diesel-Fired Heater (DC)

The WEBASTO DIESEL-FIRED FORCED-AIR FURNACE controller is located on the starboard aft wall of the settee and provides heat in the same way as a household furnace. By pressing the main switch ON / OFF the heater is activated and the indicator ON / Status lights to confirm activation. By pressing On/Off switch again the heater operation is stopped after a 3 min cooling down process. With the mode knob you can select the desired function: ECO - Energy Saving (fuel and battery saving), NORMAL - (for fast warming of interior), PLUS - (heater temporarily runs at increased amount of power for faster warming in cold conditions), and FAN - (fan only and no heat). Temperature selection is controlled by the right-hand knob (clockwise for warmer). Note - a flashing Status Indicator indicates a fault and could be caused by a low battery charge.

Check the furnace EXHAUST PORT located on the starboard side on the beam for any obstruction such as fenders or lines. Do not block this opening when operating the furnace. Heat from the exhaust will damage fiberglass and melt rubber. Once it is on, allow it to run for at least 15 minutes before turning it off.

HEATERCRAFT Engine Heat (DC)

Serendipity also has a HEATERCRAFT heater that utilizes the main engine cooling system to heat the main cabin while underway. The engine provides heat in the same way as a car heater. The controller is located on the port side of the helm. The temperature is constant but the airflow is controlled by a three-speed fan control (low, medium, high). When engines are not running, turn the “Heater” circuit breaker on the DC Panel off to conserve batteries.

ELECTRONICS

All electronic manuals are located in the Owner's Manuals case in the Mid-berth port shelf.

Depth Sounder

The GARMIN digital DEPTH SOUNDER will not give accurate readings beyond 400 feet. In deeper water, the sensitivity on the unit increases as the transducer tries to get readings back. Consequently, you will receive many false readings caused by currents, changes in water temperature, fish, and seaweed. Use the depth sounder only as an aid to navigation in shallow water. Note - the depth shown is the depth below the keel. *Serendipity* draws approximately 3 feet so the actual water depth is what's shown plus 3 feet.

IMPORTANT: The key to avoiding rocks is NOT the depth sounder – but knowing where you are at all times. (Rocks are the greatest navigational and safety hazard in the Islands – but most are clearly marked on the charts.)

We do not recommend using the depth sounder alarm during the night. It is likely to sound at inappropriate times such as late at night while fish are passing under the transducer. (Instead consult the onboard tide data, or the Tides & Currents booklet on board, to determine whether you are anchored in a safe location, considering how shallow your depth will become when the tide ebbs out of the anchorage in the middle of the night.)

Remember to ALWAYS consult your charts for depth!

Chart Plotter & Radar

The GARMIN GPS map 7215 touch screen GPS/chart plotter/radar is an all-in-one screen. It is very simple to use, and a manual is onboard in case you want to make use of the more sophisticated features. The basic operation is to turn it on (press and hold power button for five seconds, located in the top right corner), select the chart screen and go. Zoom, moving around on the screen, are via touch screen buttons.

With the chart plotter, you can zoom-in to make something that is the size of a dime on a paper chart the size of a paperback novel or larger. You can see more detail and more importantly any hazards in the area. Your boat's position on the chart plotter is accurate to within 3 meters (about 10-feet). Check the Chart-Plotter or paper charts frequently to ensure you are where you think you are. If someone asks "where are you?" you need to be able to point to the chart within a few seconds and show them the vessel's precise position. If you can't, you are in danger of hitting a rock.

You should have little need of the radar except for the highly unlikely event that you are suddenly enveloped by fog, which is rare in this area. The fog typically encountered in this area forms in the wee hours of the morning and usually burns off by mid-day. Never depart a safe location into the fog!! To do so, even with radar, is contrary to prudent seamanship. FYI, Fog becomes "reduced visibility" when you can see ¼ mile, about 500 yards, in all directions. It is safe to proceed CAREFULLY in reduced visibility, using your radar to see beyond the haze, but be sure to look up from the screen about every 10 seconds and use your eyes to scan the horizon forward, behind and side-to-side. A motor yacht, tanker or freighter traveling at 20 knots takes only 39 seconds to travel ¼ mile!! You need to see fast moving vessels sooner rather than later so you can prepare to quickly take evasive action to avoid a collision. The radar must be turned on from the HOME screen. It can either overlay the chart or be on a split screen.

VHF RADIO

Push and hold the red on/off button until the radio comes on.

You are required by the USCG to monitor Channel 16 (the hailing and distress channel) during your cruise. After establishing contact on channel 16, switch to working channels 68, 69, or 80. Scan the weather channels for the one with the best reception before sailing in the morning and prior to anchoring for the evening. This is generally a light wind region but weather changes can be sudden. Listen for the “inland waters of western Washington” or “Camano Island to Point Roberts”. Both cover the San Juan Islands. You will also hear “Strait of Juan de Fuca” (south of the San Juan’s), “Georgia Strait” (north), and Rosario Strait (runs through the eastern part of the San Juan Islands).

In an emergency, if you don’t have time to talk on the radio, you can send an automated distress call by pushing and holding the distress button under the red plastic flap. This feature is tied in to the GPS and will automatically send your location with the distress call.

HAND-HELD VHF RADIO

The hand-held VHF radio is stored in its charger on the port side helm area. It serves as a backup to the main radio, and as a unit to take with you in the dinghy.

Push and hold the bottom right button until the radio comes on. Push and hold again to turn off. The up and down arrow buttons scroll through the various radio channels. The red “16/9” button switches back and forth between channels 16 and 9. The “WX Alert” button takes you to the weather broadcast channels, then use the up or down arrows to find the clearest signal.

DC HELM PANEL Several functions including horn, running lights, anchor light, and windshield wipers are controller by rocker switches on the panel located on the helm adjacent to the wheel.

Accessory 1 turns on the overhead defroster fans.

Accessory 2 connects the Thruster Remote.

Navigation Lights A three position rocker switch with **Running Lights** on when the switch is **Up**, and **Anchor Light** on when the switch is **Down**. The middle position is Off.

Horn The right hand rocker switch operates the electric horn.

SEARCH LIGHT There is a handheld searchlight at the helm that can be plugged in to one of the 12-volt outlets when needed.

DEFROSTERS There are two defrosters attached to the windshield with suction cups or screws. These can be plugged in to the 12-volt outlets when needed.

OTHER INSTRUMENTS: GARMIN integrated Autopilot and Yanmar engine operating system.

ENTERTAINMENT SYSTEMS

AM/FM Stereo Receiver/CD Player with MP3 - Salon

The Fusion AM/FM stereo receiver/CD player with MP3 is located in the galley above and behind the captain's chair. It operates like a normal car radio and has an AUX input located in the forward stateroom for connecting MP3 players and iPods. There are three sets of stereo speakers on *Serendipity* located in the salon, the outside cockpit and the forward stateroom. Each set of speakers can be independently controlled from the forward stateroom panel. Press the red Fusion button to power the unit on or off.

TV & DVD - Saloon

The saloon is equipped with a 19" Majestic LCD TV/DVD. It drops down on a spring-loaded arm. To lower the TV, place one hand flat against the screen and apply slight upward pressure to take the strain off the mechanism, then push the metal rod to the left to release the arm. Let the TV ease down until it locks in place. To raise the TV, reverse the procedure.

The remote control for this TV is located on the shelf above the galley. A limited number of TV channels are available throughout the islands. Please note when using DVD's that the mirror side faces forward and label side backwards towards bow of boat. You can also duplicate the GPS Navigation screen onto the TV by going to Source button on the TV remote and selecting "PC mode".

TV & DVD/CD/AM-FM and iPod Aux Receiver – Forward Stateroom

Serendipity also has a Majestic 21' LCD TV/DVD mounted in the forward stateroom. It works the same as the saloon TV. There is also the main Fusion AM/FM/CD Receiver with an Auxiliary for an iPod. To use the iPod auxiliary (to the left of the Fusion), activate the iPod, then insert into iPod cartridge and select the iPod icon on the Fusion unit. Remotes are located in the nightstand on the port side of bed. You can also adjust each speaker station independently from the Stateroom Fusion controller by pushing the main knob, then turn and select desired location, then push again and adjust up or down accordingly. To power off or on, push the Red Fusion button.

ANCHORING

Serendipity is equipped with two anchors, one forward and one in the starboard lazarette.

The primary WORKING ANCHOR is a LEWMAR 22 pound claw anchor attached to a 50 ft chain and 150 ft nylon rode passed through the deck from the ANCHOR LOCKER. The locker can be accessed through the bow.

The scope to use in the Islands is 5-to-1 measured from the deck to the bottom. Most coves are 15-30 feet deep, so expect to pay out about 75-150 feet of rode. After you have paid out the suitable amount of rode, a couple short bursts in reverse (*idle speed*) sets the anchor and tests its holding power.

For storm conditions, extend scope to 7 or 10-to-1 (140-200 feet of rode in 20 feet of water), provided you have room to leeward. Otherwise, set two bow anchors (using the secondary anchor, chain and rode) in a V-type pattern for extra holding power. The secondary anchor and rode is located in the starboard lazarette.

Anchor Windlass

Power is received from the ENGINE START battery. Always operate the windlass while the engine is running! Otherwise the windlass will drain the START battery. The breaker/fuse for the windlass circuit is located in the starboard side electronics area forward of the steering station accessed from the forward stateroom. The up-down controller for the windlass is located on the foot pedals at the bow adjacent to the anchor and very conveniently, on the control panel to the lower right of the steering wheel.

Deploying the Anchor:

Come to a complete stop before releasing the anchor from the bow. The anchor is secured from premature deployment by the U-shaped bar at the front of the anchor. Pull up on the U-shaped bar before deploying anchor otherwise it will not release. Then open the covers on the FOOT PEDAL CONTROLS and tap on the Down button to gently ease the anchor off the roller and through the U bar. Once the anchor is free you can begin to slowly lower the anchor down into the water through the use of the Down foot control. If necessary, guide the anchor over the anchor roller to prevent binding on the pulpit.

Determine the depth and let out enough chain to let the anchor hit the bottom. Inform the helmsman to reverse the engine, in idle only, and payout the chain and rode until you reach the desired scope (usually 5 to 1). Make sure to take into account the tide and how much the water will rise and fall.

Secure the rope rode to the forward cleat, and then ease the windlass out enough to put some slack in the rode. The windlass is not designed to take the load of an anchored boat. Using a combination of reverse and neutral, gently tug on the anchor until it is set. Perform an anchor watch for about 30-minutes and you should sleep well.

Retrieving the Anchor:

When retrieving the anchor, NEVER use the windlass to pull the boat forward to where the anchor is set. The windlass is not designed for this and there will be a large draw on the batteries and can cause serious damage to the windlass base. Instead, head the boat under power toward the anchor while using the windlass to take up the slack in the chain/rode. Take your time, otherwise the anchor chain/rode will bunch up under the windlass and you will need to push it down to the bottom of the chain locker to prevent the chain from jamming in the windlass. Give the windlass short rests as you are pulling up the anchor. Place yourself in position to guide the anchor onto the roller. As the anchor rises, be careful to not allow the anchor to swing against the hull.

Note - Should the chain/rode start to slip on the Windlass when retrieving the anchor, you may need to tighten the Windlass clutch by using the Windlass wrench located in the Anchor Chain Locker at the bow.

Securing the Anchor:

Once the anchor gets up to the bow roller it should roll over and up through the anchor roller. You may need to guide it up through the U bracket and into the anchor holder. Chain should be taught (but not overly tight) and the U-shaped loop flipped down to secure the anchor. Close the covers on the FOOT PEDAL CONTROLS.

Mooring Buoys

The State Parks Sticker on your vessel allows you to pick up the MOORING BUOYS, or tie up to docks in the parks for free. You only need to register at the kiosk, usually located at the heads of the docks. Mooring buoys have a metal triangle at the top upon which is a metal ring. The metal ring is attached to the chain which is anchored to the bottom. **IT IS VERY HEAVY**. The strongest member of your crew should be picked for this job.

Approach the buoy into the wind as you would for anchoring. Have crew members on the bow, one with a boat hook and one with a mooring line secured like a bow line. As you are coming slowly up to the buoy, have the crew member holding the boat hook point at the buoy with the hook so the helmsman always knows where it is. Hook the buoy and bring the ring up to the boat to allow the second crew member to thread the line through the ring. Release the hold with the boat hook. If your mooring line is led out the starboard chock, bring the end of the line back through the port side. You will essentially create a bridle with about 10 feet of slack from the chock to the buoy.

Stern Tie to Shore

A few areas require a stern tie line to be led to an attachment on shore, then back to the boat. There is 300 feet of yellow floating line in the Starboard Lazarette for this purpose. After securing to a mooring buoy or anchoring, one person stays at the helm to hold the boat in position while a second person uses the dinghy to lead the stern tie line to shore and back.

BARBECUE

The BARBECUE is stored in the locker under the cockpit sink in a black carrying case. The mount is on the stern rail near the port corner. The BBQ can also be taken ashore and used with the folding legs on a picnic table or other flat surface.

To use the BBQ, attach the regulator to the BBQ. It fits loosely to allow air to flow around the gas nozzle. Next, attach a PROPANE BOTTLE to the REGULATOR and carefully light the unit, preferably with the long stem butane lighter located in the galley. The barbecue generates a lot of heat and cooks hot and fast. As a courtesy to the next guests, please use the wire brush to clean the BBQ after each use. The wire brush is stowed in the aft cabinet along with the BBQ tools. When finished, let the BBQ cool down, then place it back in the carrying case and return it to the locker.

Caution -- For safety reasons, do not store propane inside the boat, in the lazarettes, or in the cockpit locker. Propane canisters may leak slightly once opened and propane gas could settle into low spaces. Store these canisters in the swim step locker. Ensure flammable materials are not near the barbecue.

DINGHY & OUTBOARD MOTOR

Serendipity has a 10' RIB DINGHY with a 2.5 hp 4 stroke Suzuki engine. As you can see, the dinghy is mounted on the back of the swim platform and is deployed/recovered with the use of Weaver Davits.

TO DEPLOY THE DINGHY

Release the two Stand Off clips that hold the dinghy to the transom of *Serendipity*, then untie the dinghy rope attached to the rear railing and gently lower the dinghy into the water. The dinghy will still be attached to the swim step with the davit clips. You can either release these now and tie up the dinghy or leave them attached until you are ready to go.

Use the oars attached to the dinghy or the outboard motor attached to the rear railing. The outboard is secured to a bracket on the railing when not in use. To mount the motor to the dinghy, unscrew and lift the engine off the bracket and onto the transom of the dinghy. Use caution, and be sure to be well balanced to prevent dropping the motor or falling overboard. Position the outboard in the center of the transom and then tighten the screw clamps by hand to secure the outboard to the dinghy.

The Suzuki outboard has a self-contained fuel tank that holds approximately .35 gallon of gasoline (NOT DIESEL). A full tank of gas will allow the engine to be operated for 30-40 minutes. There is a spare 1.25-gal gas can prefilled in the storage bin on the swim step.

TO OPERATE THE OUTBOARD

- 1) Rotate the Air Vent Screw on the fuel tank cap fully counterclockwise to open the vent;
- 2) Turn the Fuel Cock Lever, located on the side of the engine, fully to the left (ON position). Wait 15 seconds for fuel to flow to the carburetor;
- 3) Make sure the motor is in NEUTRAL;
- 4) Make sure the Emergency Stop Lock Plate is in place and the cord is fastened to your wrist, belt, life vest strap or clothing. (A spare lock plate is in the Suzuki Zip-lock bag in the black Ranger Tugs briefcase);
- 5) Pull the Choke Knob on the front of the engine fully out. Note - If the engine is still warm from previous use, do not set the choke;
- 6) Turn the throttle grip, to the START position (Just past the gap in the white line);
- 7) Pull the Starter Grip slowly until resistance is felt. When you feel it engage, pull sharply to start the engine. Do not release the rope when it is pulled out. Allow it to recoil slowly;
- 8) When the engine has started, use the Throttle Control Grip to bring the engine to idle;
- 9) Push the Choke Knob in;
- 10) Warm up the motor for about 5 minutes.

To place the motor in gear, set the Throttle Control Grip to idle, then firmly pull the shift lever to the "Forward" position.

Speed is controlled by rotating the grip. To REVERSE the engine, return the throttle to the idle position, rotate the motor 180 degrees with the handle, then flip the handle toward you.

To STOP the engine, reduce the engine speed to idling rpm and push the red Stop Button on the control handle until the engine stops completely. Be sure to close the Fuel Cock and Air Vent Screw on the Fuel Tank Cap when you are finished using the engine.

To raise the motor, reduce speed to IDLE, then shift into NEUTRAL. Turn the Fuel Cock Lever to OFF and close the Fuel Vent Screw on the Fuel Cap. Raise the motor until it locks in place.

To lower the motor into the water, pull it slightly toward you, then release the Tilt Up Lock Arm located just above the Mounting Bracket.

Coast Guard regulations state that any child 14 and under must wear a life jacket in the dinghy. It is a good idea for EVERYONE to follow this rule. Oars are mounted on the dinghy if needed.

Please take special care when beaching the dinghy. Most of the beaches you will land on are strewn with barnacle-covered bottom damaging rocks. When approaching the shore, weigh the dinghy aft by moving the crew toward the back of the dinghy. Then off-load everyone over the bow. Also remember to secure the painter under a large rock or to a large driftwood log so the dinghy won't float away should the tide rise while you are ashore.

If you decide to tow the dinghy at any time please go slow and always keep it tight to the boat any time that you slow down or stop. Assign one of your crew members as the "dinghy" person to be responsible for taking up slack. You don't want to wrap the tow line around the propeller.

TO RECOVER THE DINGHY

Bring the dinghy to the swim platform on the side with the davit clips (portside) and then attach the clips. Carefully unscrew the motor from the dinghy transom and lift it off the transom and onto the outboard bracket on the swim step rail. Be sure to place the motor on the inside of the railing to leave room for the dinghy. Tighten the clamp screws by hand, but do not over-tighten as the bracket is made of plastic and will crack if you over-do-it.

Now to raise the dinghy, you have two choices. One or two people may be able to raise the boat manually with lines to the outside sponson. Once raised, attach the standoff clips and remove the lines.

If this is too much, you can use the come-a-long system that attaches to the bracket to the left of the rear cabin door. The come-a-long is located in the cockpit locker under the sink. Insert the come-a-long into the bracket from the left, then rotate it down into the mount. Lock it in place with the pin. You will need to release the come-a-long to allow the line to be pulled all the way out and then attach the carabiner at the end of the line to the metal ring on the outside of the dinghy. Switch the come-a-long to retrieve and ratchet the rope up until you can manually pull the dinghy back into place to attach the standoff clips.

The cabin door will break if it strikes the come-a-long, so do not leave it attached when not in use.

Kayak Rack

There is a kayak rack onboard *Serendipity*, on the starboard side of the cabin top. There are tie-down straps located in the black bin in the Starboard Lazarette.

Cargo/Bike Rack

There is a cargo rack onboard *Serendipity*, on the port side of the cabin top. Miscellaneous gear can be secured to this rack with bungee cords or tie down straps. To use this rack for storing bikes, place the tires between the slats and secure the bike with tie down straps to the frame. Soft Tie straps are in the bin with the tie down straps and should be used to protect the finish on the bike.

CRABBING & FISHING

The Crab Trap is secured to the Top Cabin Deck with bungee cords. 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 during certain months.

Use caution when placing and retrieving crab traps! 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 trap. After 30 minutes, or up to 12 hours, retrieve the crab trap. Measure the crab using the CRAB MEASURING GAUGE attached to the crab trap. Keep male crabs of proper size (usually 6 ¼ 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) and replace on top of the Cabin Deck. *Note -- Please do not store wet traps and gear inside the boat.*

VISITING CANADA

Canada has some great cruising areas. If cruising into Canada, you must have a valid passport. You must check in with Canadian Customs as soon as possible after entering Canadian waters. Once you've cleared customs, you should fly the Canadian courtesy flag from the Starboard Yardarm. The flag is in the left-hand overhead pilothouse cubby. A flag clip is attached to the yardarm on the mast. Once the flag is attached to the clip, the line should be secured to the cleat next to the GPS antenna. The Canadian flag should be stowed upon returning to the U.S. You must check in with U.S. Customs.

OTHER: Safety & Bilge Pumps

SAFETY should be paramount in your daily cruising. A MAN OVERBOARD DRILL should be discussed and perhaps even practiced with a life jacket. Remember your lifejackets are stowed in the mid-berth and in the forward stateroom locker. Your flares and safety equipment are also located in the mid-berth in the hanging locker.

Please check the bilge twice each day, morning and evening. The bilge area is accessed easily by lifting the engine hatch and looking at the area behind the transmission and under the shaft. *Serendipity* is equipped with **electric on-demand** AUTOMATIC BILGE PUMPS, with circuit breakers at the DC Panel located on the aft wall of the settee. The ON position at the breaker panel is the MANUAL ON mode and will run continuously until switched off. The OFF position at the circuit breaker is the AUTOMATIC position and will cause the pump to be controlled by the sensors. Please keep the circuit breakers in the **OFF** position unless it is necessary to override in MANUAL mode. You may occasionally hear the pump operate due to condensation and water from the shaft log accumulating in the bilge.

Flares - Visual day/night distress signals are located in the bottom of the portside hanging locker in the mid-berth. Please locate them now so that you know where they are before you need them.

Fire Extinguishers - There are two fire extinguishers on *Serendipity*. One is mounted in the mid-berth and one in the forward stateroom.

Life Jackets - Four adult life vests are located in the forward stateroom hanging Locker. Four adult, two youth, and two child life vests are hanging in the Mid-berth.

Throwable Floating Seat Cushion - A throwable floating seat cushion with whistle is located in the cockpit on the port side.

ENGINE SPARES are stowed in the forward stateroom, under the forward cushion of the bed. This includes an oil filter, raw water impeller, pump parts, injectors, belts, and other small parts.

THROUGH-HULL LOCATION

There is one below water-line through-hull fitting. It is under the boat, adjacent to the Engine Compartment, and feeds the Sea Strainer. It is controlled by a valve labeled "SEACOCK" on the starboard side of the engine compartment.