

NOTES FROM THE OWNERS OF “SERENITY”

Welcome aboard SERENITY. We are delighted that you have chosen our boat for your vacation adventure in the Pacific Northwest.

SERENITY is a 2005 Selene 36 Ocean Trawler with 2 full staterooms, one forward and one aft. The gear and equipment aboard “SERENITY” is high quality and installed to enhance your cruising experience and add to your safety. We have prepared these notes to help you become familiar with SERENITY and to provide a quick reference to the various systems and equipment aboard. To be certain that you understand all of the information necessary for safe cruising, we encourage you to review the specific equipment manuals located in the starboard locker forward of the lower helm. If you have any questions about the boat, her equipment, or places to visit on your cruise, ask your check out captain or any of the San Juan Yachting staff, they are always happy to help.

Some of our favorite things about SERENITY:

- 1. The bow and stern thrusters make docking and maneuvering easy and safe.*
- 2. Plenty of deck area to enjoy the outdoors and a fly bridge for great visibility while maneuvering.*
- 3. Full handrails for safety all around; and stairs with rails to the aft deck and fly bridge. (Not a ladder)*
- 4. The engine is quiet and very fuel efficient.*
- 5. She rides gently in moderate seas and disturbed waters.*

Again, we are pleased that you have chosen our fine vessel and look forward to sharing her with you, our guests. We hope you’ll love her as much as we do and we thank you for taking special care of her. SERENITY is a no smoking and no pet boat, thank you for respecting this for others. If there is anything we could add to our notes to help clarify our boat operation, please let us know.

Calm Seas!

Guy and Linda Coons, Owners

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Specifications:

Year: 2005

LOA: 44' (with dinghy) LOH: 37'2"

LWL: 34' 11" LOD: 36'6"

Beam: 14'6"

Draft: 4'8"

Displacement: 35,700 lbs. Dry / 42,000 Wet

Height above WL: 21'2"

Fuel: 500 gal.

Water: 200 gal.

Holding: 60 gal.

Power: Cummins QSB5.9 330 HP

- 1. Anchors.** *SERENITY* is equipped with two anchors, one forward on the bow and one in the forward deck locker on the port side. The primary bow anchor is a 35 lbs. CQR plow with 300 feet of 5/16" chain. The chain is marked with yellow markings at 50 foot intervals. Each marking represents 50 feet, if you see 3 yellow painted markings on the chain; you have let out 150' of chain. The last 8' of chain is marked in solid yellow, if you see the solid yellow, **stop immediately**, there is no more chain.

The **secondary stern anchor** is a 15 lbs. Danforth with 35 feet of chain and 200 feet of nylon rode. It is located in the forward deck locker on the port side. When removing the anchor, be careful not to damage the wash down hose assembly.

The **stern tie line** is a 600 foot reel of line for stern ties and is in the aft cockpit locker. (Please do not cut the line; it is all needed for certain places in Desolation Sound.)

The recommended scope to use in the islands is 4-to-1. Most coves are 15'-30' deep, so expect to pay out about 60'-120' of rode. For storm conditions, extend scope to 7 or 10-to-1 (200' in 20' 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.

- 2. Anchor windlass.** Power is received from the engine start battery. To avoid draining the start battery, **always operate the windlass while the engine is running!** Turn the windlass breaker on at the electrical panel, and then switch on the windlass activation switch located at the lower helm next to the ignition. The windlass can be operated from three locations, from the lower helm, the fly bridge, or from the bow. Always deploy and retrieve the anchor from the bow. Remove the keeper line that secures the anchor, tighten the wildcat brake so that it is closest to the chain, using the brake handle, release the main cog and then the brake handle cog, – **Watch your fingers.** Find the “down” foot control on the starboard side and the “up” foot control on the port side of the windlass (look for the directional arrows).

- a. Deploying the Anchor:**

Come to a complete stop before releasing the anchor from the bow, this is important because if the boat has forward momentum, the anchor may swing into the bow when it hits the water. Drop the anchor slowly off the bow roller and into the water. Determine the depth and let out enough chain to allow the anchor plus about 10 feet of chain to hit the bottom. Inform the helmsman to reverse the engine slowly, shifting in and out of gear at idle speed, pay out the chain until you reach the desired scope (Usually 4 to 1). Make sure to take into account the tide and how much the water is going to rise or fall. Using a combination of reverse and neutral, gently tug on the anchor until it is set. Perform an anchor watch for about a half an hour and you should sleep well.

B. Retrieving the Anchor:

When retrieving the anchor, never use the windlass to pull the boat forward. Power the boat forward slowly toward the anchor, using the windlass to take up the slack in the chain. Take your time, the anchor chain sometimes bunches up under the windlass and you may need to push it down to the bottom of the chain locker with the boat hook to prevent the chain from jamming in the windlass. Rinse any mud and debris from the chain and anchor as it comes up with the bow wash down hose found in the port bow deck locker – be certain to switch on the circuit breaker at the electrical panel for the deck wash hose. Use the sea water connection (port side of locker), not the fresh water.

C. Securing the Anchor:

Once the anchor is on the bow roller, be sure to secure the anchor with the “keeper” line. Pass the line through the anchor/chain connector and tie the line off on the cleat on top of the windlass. Ideally, the tension should be on the keeper line and not on the chain. After securing the anchor, switch the windlass breaker “off” at the lower helm and at the electrical panel to prevent draining the engine start battery should the windlass system decide to short.

- 3. Barbecue.** The propane BBQ is fueled from the main propane tank, open the propane tank valve located in the fly bridge locker to the left of the helm. Open the lid to the BBQ and be certain the valve is off. At the electrical breaker, switch on the “gas alarm”; then push on the propane control unit above the galley counter. Turn the BBQ valve on and push the red start button several times until the BBQ is lit; it may take 30 seconds or more for the propane to make its way to the unit from the tank. The BBQ generates a lot of heat and cooks hot and fast: be careful. The BBQ tools are in the plastic bin in the propane locker. As a courtesy to the next guest, please clean the BBQ after use.
- 4. Batteries & Charging.** For normal operations, leave all main battery shut off switches on. A battery combiner isolates the start battery, assuring all batteries are charged, while protecting the engine start battery from draw-down by house usage. The House bank (batteries 1 & 2) has two 250 amp-hour deep-cycle batteries (400 amps useable) for house services. The engine battery (battery 3), generator battery (battery 4), and thruster batteries (5 & 6), along with the house batteries are all charged when the engine is running. They will also be charged when shore power is connected or the generator is running, as long as the “inverter input” and “inverter output” breakers are on; the inverter has a battery charging system built in. There is a separate battery charger that will also charge the batteries and it has a separate breaker at the electrical panel. Do not turn the battery charger on unless there is a problem and the batteries are not charging through the inverter. Battery voltage can be checked at the electrical panel by dialing to battery 1 – 6. The engine start battery, bow thruster battery, and generator battery are in the engine compartment. The stern thruster battery and house battery are in the stern deck locker. The main shut off switches for the generator battery, engine battery, and forward thruster are located below the lower helm wheel in a small locker. The main shut off for the house battery is at the bottom of the electrical panel and the stern thruster battery shutoff is in the rear deck locker.

The status of the house battery is best monitored by using the round Link 10 gauge at the lower helm. There are 4 green indicator lights at the top of the Link 10 gauge and it reads as follows: 100% charged - 4 green lights are lit, or 3 lit and 1 flashing, 75% charged - 3 green lights are lit, 50% or below – 2 yellow lights are lit. The battery voltage is read by pushing the “sel” button to the “V” position. **You should recharge before the house batteries are depleted to 50%.**

To recharge the batteries, start the engine, start the generator, or connect to shore power. Be sure that the inverter input and output breakers are on when connected to shore power or when the generator is running.

If for some reason the engine battery has insufficient charge to start the engine, push the small toggle switch on the Outback Monitoring system forward (located at the lower helm). This combines all of the batteries to help start the engine. If this fails, start the generator and charge the batteries.

5. **Berths.** *SERENITY* sleeps 4 people - two in the forward cabin and two in the aft cabin. The forward berth has two 6’8” long, 3’0” wide “V” berths. The aft berth is 6’7” long, 5’0” wide.
6. **Bilge pumps.** Please check the bilges each day. There are 4 primary bilge pumps; they are electric on demand and are activated automatically once water trips the float switch. One is located below the floorboards in the forward cabin. One is in the engine room forward of the engine and below the generator. One is below the aft cabin hanging locker, remove the locker floor board and check with a flashlight. The last one is in the stern, access through the stern deck locker. A hand operated bilge pump is located in a small locker in the forward cabin near the floor.
Each shower also has an automatic bilge that operates when water is run down the shower drain.
7. **Bimini.** The bimini top at the fly bridge should not be removed or vision panels rolled up. To increase ventilation, unzip the sides and bottom of the center vision panel, and then pull back and suspend it using the snaps on the bimini lid. **Use a hose to rinse the vision panels. Otherwise, use only water or plex cleaner and a soft cloth to clean the vision panels – be careful not to scratch the plastic.**

If you find it necessary to remove the side curtains, first locate the large canvas storage envelope in a plastic bin in the fly bridge starboard locker. This envelope will protect the side curtains and attaches to the starboard bulkhead next to the co-pilot chair. Removal of the side curtains is a two person job. First, carefully disconnect the rear Velcro connection from the frame, being careful not to remove the glued on Velcro strip attached to the stainless. Then, unsnap the bottom connectors and unzip the top and forward zippers while one person is holding the rear of the panel. This is an awkward task, do it only in calm weather conditions, be careful not to scratch the plastic panels.

8. **Dinghy/Davit.** *SERENITY* has an inflatable AB brand 10' dinghy with a 20 HP Honda outboard. **To launch** the dinghy, locate the davit operating remote control located in a plastic bin in the starboard locker forward of the lower helm. Plug the controller into the 12 volt DC outlet on the stern transom below the davit. With the controller, lift the davit slightly to release tension on the keeper wire. Release the keeper wire shackle from the davit, **install the drain plug** located inside the dinghy below the outboard, and then lower the dinghy into the water. Lower the davit arms until there is plenty of slack in the lift wires and the davit ends are near the bottom of the dinghy. Tie the dinghy to the boat and disconnect the lift wire shackles from the davits leaving the cables in the bottom of the dinghy – **be certain that there is no tension on the davit lift cables when entering the dinghy or the davit arms may be damaged.** Lift the davit arms out of the way. Reverse this procedure to retrieve the dinghy. The davit motor will shutoff automatically when it reaches its full upright position. **To start the outboard:** Shift lever to start position, squeeze the fuel bulb located on the fuel line below the motor 6 or 7 times, turn the key clockwise to start. Warm the motor for a few minutes, be certain that the motor is discharging a small spray of coolant water. On the side of the shifter is the switch to lower and raise the propeller. Apply the throttle gently, this is a powerful motor and can move quickly. To shut off, turn the key off. Never leave the key in the ignition when the dinghy is unattended and not up on the davit. The button on the right side of the shift/throttle housing raises and lowers the engine out of the water.

Please take special care when beaching the dinghy (refer to the dinghy beaching procedure in your charter guest book). Most of the beaches you will land at are strewn with barnacle-covered, bottom-slicing rocks. When approaching the shore, weight the dinghy aft by leaning or moving the crew toward the back of the dinghy. Then offload everyone over the bow. Also remember to secure the painter under a rock or to a large driftwood log – we have very large tidal fluctuations – don't let the dinghy leave without you! . Top off the dinghy fuel when you return to avoid fuel charges.

9. **Electrical Panel.** Most circuit breakers at the electrical panel are self-explanatory. Each circuit is color coded to help you to determine which should be on or off. If a circuit is on, the red light next to it will be lit. In general, leave the light circuits on and the outlet circuits that you plan to use, as well as the refrigerator and the freezer if in use. Other circuits can be left on, or turned on only when you use them. Be sure to turn the fresh water pump off when you are under way, outside the cabin, or when ashore. The water heater should only be turned on when connected to shore power or when the generator is running. A few notes about electrical use follow:

A/C (120V) Power. AC power is used to power the microwave, coffeemaker, hairdryers, etc. AC power is provided to appliances and outlets when connected to shore power or when the generator is running. When using the shore power cord, be certain that the shore power source is off before connecting to the boat electrical system. When disconnecting the shore power cord, leave the pigtail that connects the cord to the boat attached to the boat; disconnect the cord from the pigtail and stow it as needed (I store it in the locker below the fly bridge helm). AC power is also provided from the house batteries through the inverter. The “Outback Panel” located at the lower helm will have a yellow light on when connected to shore power (left side of panel) and a

green light on when the inverter is providing AC power from the house batteries (right side of panel).

Inverter. When not on shore power or running the generator, AC power is provided by the inverter converting power from the house battery. The inverter has 2 breakers on the electrical panel, one for power “in” and one for power “out”. **They must both be on for the AC outlets to work when connected to shore power or when the generator is running.** When not on shore power or generator, the inverter “out” must be on for AC power to the cabin. The AC outlet breakers for each area must be “on” for the plugs to be live. In most instances, leave the inverter breakers on all of the time. Just be aware that if you are not on shore power or don’t have the generator running, the AC power being used is coming from your house batteries, this usage should be monitored carefully to avoid running down the house batteries. Check the Link 10 gauge often.

The inverter will “trip” off automatically if the AC load exceeds 30 amps (hairdryer, microwave, and coffeemaker) or if the battery is low (less than 50%). If this happens, the green light on the outback system at the lower helm will be off as well as the red light next to the inverter “out” breaker. To restart the inverter, turn off the inverter breakers, start the generator or connect to shore power, switch the inverter breakers on again. It takes about 10 seconds for the inverter red light to come on. Do not turn the water heater on while disconnected from shore power or the generator, or when using the inverter. **Be certain that you understand the basics about the inverter before departing. If the generator or engine fail to start, switch the small toggle forward at the Outback panel, this combines all of the batteries for about 3 minutes.**

Battery Charger. The Battery Charger onboard is used as a back up charging system. The inverter charges all of the batteries when connected to shore power or when the generator is running as long as both “inverter input” and “inverter out” breakers are on. If for some peculiar reason the batteries are not being charged through the inverter, switch the battery charger breaker on when connected to shore power or when operating the generator, otherwise leave it off.

Chart Plotter & Radar. The circuit breaker for the radar should be turned on when operating the boat and turned off when docked or anchored.

Autopilot/Thrusters/Ignition/Navigation Equipment/VHF. These breakers should be turned on before getting under way and turned off when anchored or docked.

Cabin Lights. The circuit breakers are always on and the switches are located on the walls in the salon, forward and aft cabins.

Water Pressure. The fresh water pump is turned on at the main electrical panel. The pump pressurizes an accumulator tank and it shuts off when the tank is at “working pressure”. If you don’t hear the pump start up when you turn it on, it means that the system is at working pressure – you should hear the pump start again after you use some fresh water. To be safe, turn pump off when ashore to avoid loss of fresh water in the event of a line leak.

Shore Power A/C Circuit Breaker is located in the electrical panel. It rarely trips, but if it does, just turn it back on.

Running Lights. Please be advised that night passage making is not permitted under terms of your agreement with San Juan Yachting. Only use in cases of reduced visibility (like fog or on the rare days in the Pacific Northwest when there's heavy overcast).

Anchor Light. Okay to run all night in an anchorage (won't deplete batteries).

10. **Electronics.** *SERENITY* is equipped with **Simrad** radar/chart plotter/GPS/depth sounder, and a Ray Marine wind instrument, and Simrad autopilot. These instruments are activated as follows:

A. Radar/Chart Plotter/Depth sounder/GPS:

1. Activate the radar and nautical equipment breakers at the electrical panel.
2. Press and hold the power button on the radar/plotter until the welcome screen appears, then press "enter" (ent) above the gray cursor.
3. Once a screen appears, press "menu", a selection bar will appear at the top of the screen, select radar and push "enter". Four choices will appear below radar, scroll down using the gray cursor to the first choice "Radar" (1) and push "enter".
4. A selection screen appears, scroll up to "power on" and press enter.
5. A message "detecting" will appear followed by "standby" and the time remaining – about 110 seconds. Once the detection is complete, press "enter", a selection screen appears, scroll to "transmit" and press "enter".
6. The radar and chart plotter are now activated, use the quick reference guide on the Radar cover to explore the system.

The radar/chart plotter on the flying bridge is a slave to the lower helm unit. It will maintain the same page as the lower helm until you change it at the Fly Bridge. If the screen is not on when you move to the fly bridge, push "power" to turn on. I like to use the radar on the .5 mile scale when boats are around.

Select "chart" or "radar" by pushing the corresponding button. To change chart or radar displays, push the page button and it will move to the next display. On both the radar and chart modes push 1 through 9 to zoom in and out or (-) will zoom in, (+) will zoom out.

Read the quick notes on the back of the screen cover and the Radar/Plotter manual found in the starboard locker in the forward cabin, particularly chapters 1 & 2, it really helps.

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 they are all clearly marked on the charts.**)*

Use the chart plotter in conjunction with the chart book and the roll charts with the "killer" rocks marked in red. Cross check your location shown on the plotter with the

charts often. It's easy to get disoriented out among the islands. By enlarging the screen (press 1 – 9 or, “–“zooms in, “+ “zooms out) you can see more detail. Your boat's position on the chart plotter is accurate to within 3 meters. If in doubt as to your location, check the chart for depth and then check the depth sounder reading, they should be close.

Check the radar occasionally; it will pick up boats approaching from your stern and beam. Other than that, you should have little need of the radar except for the unlikely event of being suddenly enveloped by fog, which is rare in this area. Fog usually forms in the early morning and burns off by mid-day. If it's a little soupy after breakfast, we put on an extra pot of coffee and wait until it lifts. Never depart from a safe location into the fog! To do so, even with radar, would be contrary to prudent seamanship. FYI – Fog becomes “reduced visibility” when you can see ¼ mile 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 often and look carefully. Listen and look in all directions, you will sometimes hear a boat in the fog before you see it. A boat or a tanker traveling at 20 knots takes only 39 seconds to travel ¼ mile!

D. Knot meter. GPS input to the chart plotter provides an alternate and quite accurate speed indication called SOG (speed over ground). Speed is read at the right of the screen when display is on full chart.

E. VHF Radios: There are two fixed VHF radios, one at each helm, and one handheld with charger at the lower helm. Use the handheld to monitor the weather stations.

You should monitor channel 16 (the hailing and distress channel) during your cruise. 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 Juans), “Georgia Strait” (north), and “Rosario Strait” (runs through the eastern part of the San Juans). San Juan Sailing monitors channel 80 during office hours (closed Sundays). By phone you can reach the San Juan Sailing office at (800) 677-7245 or SJS's owner, Roger Van Dyken, at (360) 224-4300 (cell) or (360) 354-5770 (home).

F. Auto Pilot: To operate the auto pilot at the lower helm turn on the auto pilot breaker on the electrical panel, then push “power” at the auto pilot. The auto pilot is now in “standby” mode. To have the auto pilot steer a course, steer the boat in the general direction and press “auto”, the auto pilot will now steer that course. To alter the course, turn the dial to the new course. To resume steering with the wheel, push “standby”.

The auto pilot at the fly bridge is controlled by a remote control. The remote is in a plastic bin in the starboard locker in the forward cabin. Connect the remote to the outlet to the right of the fly bridge wheel. It operates in the same way as the auto pilot at the lower

helm. The lower helm auto pilot must be in the standby mode to take control with the remote at the fly bridge. Serenity's steering is very sensitive and we suggest using the auto pilot in open waters.

11. Emergency / Safety.

Flares. Visual day/night distress signals are located under the first step in the forward cabin.

Fire Extinguishers. There are three fire extinguishers onboard. One is located under the galley sink, one in the locker below the lower helm seat, and one in the engine room, right of door.

Life Jackets. 4 PFDs are located in a white bag in the locker below the helm at the fly bridge.

Also, 4 automatic inflating PFDs are located in the aft cabin closet, we recommend fitting these to each crewmember before leaving the dock.

Man Overboard Harness. Aft stern rail, read instructions before leaving dock.

Emergency Life Raft. A 4 person emergency life raft is located in the aft cabin hanging locker. It is to be used for extreme emergencies only, IE: Abandoning Ship. Each crewmember should familiarize themselves with the launching instructions found on the outside of the raft carrier.

Hand Held Horn. A hand held warning horn is located under the first step in the forward cabin.

First Aid Kit. A first aid kit is located in the forward head, port side locker.

Binoculars. A set of binoculars is under the third step in the forward cabin.

Flashlights. 3 small LED flashlights and 1 larger flashlight are located in the basket on the chart table. 1 large flashlight is located in the engine room to the right as you enter near the ceiling.

Tool Box. A tool box is located in the starboard lower locker in the aft cabin.

12. Engine.

The light switch to the engine room is located next to shower in aft cabin. Breaker must be turned on at electrical panel.

Starting: Remember “**WOBBS**” – **W**ater (coolant), **O**il, **B**ilges, **B**elts, and **S**ea strainer.

1. Check the oil level using the dipstick located on the port side of the engine. Also check the transmission oil, the dipstick is at the starboard rear of the engine. If the initial reading shows low oil, check it again, this will break up any air bubbles that may be causing a false reading. Add oil only if the level reads below the ½ mark on the dipstick. Use the onboard oil and add only ¼ cup at a time, then recheck the level. **Do not overfill.**
Please use paper towels to catch drips. The engine oil is 15W-40, the transmission oil is 30W.
2. Check the coolant level in the expansion tank located on the forward part of the engine at eye level; fill to the cool level mark (half way) if necessary with the coolant located next to the oil.
3. While you have access to the front of the engine, check for belt tightness, leaking fluids, etc.
4. Visually check the raw water strainer located at the lower front of the engine, it is in a glass/bronze housing. If you can see grass or debris, locate and close the water intake thru hull valve slightly to port of the strainer. The valve is closed when the valve lever is perpendicular to the valve assembly and open when it is in line with the valve assembly. After closing the valve, unscrew the cover, remove and clean the strainer, and then replace the strainer and cover. **This is critical – be sure to open the water intake valve! Be certain that you understand this procedure before leaving the dock.**
5. Check the Racor fuel filters located on the aft wall of the engine room. Make sure the fuel in the bowls is clear and free of water. If the filter in use is dirty, switch lever to the other filter.
6. Check the generator fluids while you are in the engine compartment; also check the sea water intake strainer to the right of the generator – clean if necessary the same as the engine strainer.

7. **After the engine inspection**, turn on the “engine ignition” breaker at the electrical panel. An alarm will sound. Press the black button on the ZF gear shifter, this will silence the alarm and a red light will indicate that control of the boat is at the lower helm.
8. Insert the key into the ignition, shift the gear shifter to neutral, and turn the key clockwise, the engine gauges above the helm will activate. **Press the black start button and release when the engine starts.** If after 5 seconds the engine has not started, wait 15 seconds and repeat this procedure. Once the engine has started, go to the stern and be sure water is coming out of the exhaust on the port side. If it isn't, shut the engine down and find out why.
9. On the engine monitoring gauge above the helm, scroll to and select “propulsion”, four engine readings will appear; oil pressure, temperature, battery charge, and fuel burn rate. Check the engine oil pressure as soon as the engine is started. At 1400 – 1800 RPM, once the engine is at operating temperature, the oil pressure should read between 45 and 60 psi, the engine temperature will be around 175 F. At idle (600 RPM), the oil pressure will be around 40 psi.

Allow 5 minutes of warm up before placing a load on the engine. This is enough time to organize the dock lines or hoist the anchor and prepare to get under way. Extended warm up is not necessary. Do not exceed 1500 RPM until the engine reaches normal operating temperature of 165F to 175F.

Operation. The 330 HP Cummins series engines are very reliable. Cruising speed is 7 to 8.5 knots at 1500 to 2000 RPM. Fuel consumption should be between 2 and 5 gallons/hour at cruising speed depending on sea, wind, and current conditions. **Please do not exceed 2200 RPM**, it's hard on the engine and fuel consumption goes WAY UP at very little increase in actual speed.

To avoid the possibility of sucking air or sludge into the injectors, refuel when the fuel drops below ½ full and definitely before it reaches ¼ full.

Engine Overheat. *If the engine overheats alarm sounds while the engine is running, the most likely cause is eelgrass plugging up the raw water strainer. The best upfront solution to this problem is prevention—watch for eelgrass mats, especially along those “soapy” looking tide 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, follow the procedure in paragraph 4 above. Then restart the engine. If the above fails to solve the problem, call San Juan Yachting for assistance.*

Engine Shutdown. First bring the engine to idle and the gearshift to neutral. Allow the engine 5 minutes to cool gradually and uniformly. Usually the time preparing to dock or anchor the boat is sufficient. Ascertain that the ZF shifter is in neutral, press the red “off” button at either helm until the engine has stopped. Turn the key counterclockwise and remove it. Turn the ignition breaker off at the electrical panel. **Never turn the key off until the engine has stopped.** In warm weather, turn on the engine room blower at the electrical panel for 15 to 30 minutes to cool the engine compartment and remove any engine odor.

- 13. Fuel Tanks.** “SERENITY” is equipped with two 250 gallon fuel tanks located port and starboard amidships. The engine burns about 2.2 gallons of fuel per hour at 7 knots and about 5.5 gallons at 8.5 knots. Higher speeds burn fuel at a considerably higher rate. The maximum speed of the boat is approximately 9.5 knots. **Assuming a 4 gallon/hour burn rate, assume a range of approximately 750 miles using ¾ of the fuel in the tanks.**

To Fill The Tanks: The filler cap for the port tank is located forward of the port salon door; the filler cap for the starboard tank is located slightly astern of the starboard helm door. Shut off the starboard fuel tank valve located at floor level just inside the engine room opposite the door. Be careful, it has a small “keeper” slide to prevent accidental operation of the valve. Shutting this valve prevents the tanks from balancing back and forth while refueling. **Do not pass the fuel hose through the cabin!**

Before pumping, locate the fuel/oil sorbs and rubber gloves in the top step of the forward cabin. Have the fuel/oil sorbs handy to soak up any spilled fuel. Place the nozzle into the tank opening, pump slowly to allow air to escape. Fill one side and then the other. 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 filler opening. Top off carefully and slowly, and be prepared to wipe up any spilled fuel. Check the gauges for full readings at the lower helm F1 & F2, and also the sight gauges at the entrance to the engine compartment. **Don’t forget to open the starboard fuel tank shut off valve once fueling is complete.**

Please be very careful when fueling. It takes only a few drops of diesel fuel in the water to create a sheen and subject you to a Coast Guard fine. Fill carefully. Check the side vent and, with soap and water, wipe up any excess fuel to avoid yellowing the deck and polluting the water. Also be very careful of drips when removing the hose. Diesel and shoe bottoms are a very slippery and a dangerous combination. After wiping, please use soapy water to scrub down any drips so it does not stain the fiberglass.

Note: *Unlike automobile fuel gauges, fuel gauges on boats are notoriously inaccurate. Therefore, whenever the fuel level drops below ½ full, you should refuel at your next opportunity. NEVER let the fuel level fall below ¼ full or you’re 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.)*

14. Generator.

SERENITY is equipped with a 5 KW, AC generator located forward of the main engine. Engine oil should be checked prior to each day's use; the dipstick has a yellow cap and is located on the front of the generator. The generator may be started from the lower helm just to the left of the wheel or at the generator. Check the oil and raw water strainer before starting.

To start the generator:

1. At the electrical panel, turn the shore power breaker off; slide the black preventer to the right so that the generator breaker is free to operate. Do not turn generator breaker on yet.
2. Turn off breakers at the AC panel. Be certain that the red operating switch at the generator is in the on position.
3. The start switch is a rocker, the lower part is the generator preheat and shutoff, and the top part is the starter. Push and hold the preheat for 10 or 15 seconds and then push and hold the starter to start the generator. It may take 15 to 30 seconds to start, you will hear it. Once started, promptly check the oil pressure on the gauge next to the start switch, and then the exhaust at the stern to be sure coolant water is being discharged. If there is no pressure, or no water, immediately shut the generator off and trouble shoot. If the generator fails to start, go to the engine room and start the generator from there.
4. After 3-4 minutes, the generator will have warmed up, and you can then flip the main generator breaker to ON and then flip on breakers at the AC panel as required. Monitor the coolant temperature and oil pressure at the gauges next to the start switch.

To stop the generator: Switch the generator breaker off at the top of the electrical panel. After about 2 minutes of running without a load, push the lower part of the generator start switch and the generator will shut down.

15. Marine Toilet & Holding Tank. *SERENITY* has one 60 gallon holding tank located under the sole in the forward cabin. Be aware of the rate of waste production – about 1 gallon per flush. (San Juan Yachting staff will discuss holding tanks, overboard discharge and pump outs upon your arrival.) To monitor the level of the holding tank, turn on the Full Level Alarm breaker at the electrical panel, this will activate the Tank Watch System located to the right of the lower helm wheel. **When the system indicates full, don't use the heads until the holding tank has been emptied, it could burst a hose!** Occasional cleaning of the toilet keeps the head smelling fresh.

The holding tank is emptied in one of two ways:

1. At the marine pump out station, remove the waste cap located on deck on the starboard side, forward. Insert the pump out nozzle into the waste pipe opening and hold it in to gain a secure seal. Double check the deck fitting! Turn on the pump and open the valve located on the handle. When pumping is complete, close the lever on the handle and turn off the pump. If there is a fresh water hose on the dock, rinse the tank by running water into the tank for 2 or 3 minutes and then pump again to empty the tank. After emptying the tank, the Tank Watch System may only read at the "low" level, this is not unusual and may mean toilet tissue is causing a slight misread of the tank level.

2. The tank's contents may be discharged overboard with the macerator pump only in Canadian waters and only in approved discharge zones. **Know the rules and talk to your check out Captain.** To operate the macerator pump, open the red handled valve from the holding tank to the macerator pump located below the floor in the forward cabin. Also open the thru hull valve located to starboard at the through hull. Turn on the macerator breaker at the electrical panel. Listen to the macerator's sound. When the pitch becomes higher, the tank is empty. Check the tank monitor panel and visually check to see if discharge is coming out the starboard side at the water line forward. If you see air bubbles, the tank is empty. It should only take 3 to 5 minutes to empty the tank from full level reading, turn the macerator off as soon as it is finished. Be careful not to run the pump dry as it may burn it out. There is a replacement macerator pump under the first step in the aft cabin.

Marine Toilet Operation:

"SERENITY" is equipped with two fresh water electric marine Tecma toilets. Each toilet has an adjacent control panel with two buttons. The button on the left is labeled "Before Use"; the button on the right is labeled "After Use". To conserve water, the following procedures are highly recommended. For urination, simply use the toilet and then press the "After Use" button. For solid human waste, first press the "Before Use" button to pre-fill the bowl. When you are done, press the "After Use" button. A few seconds after the flush the macerator pump will move the effluent to the holding tank.

To recap:

For #1 use "After Use" button only. For #2 use "Before Use" and then "After Use".

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. **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 SJY.

Y-Valve

The Y-Valve directs waste from the toilets to either the holding tank or directly overboard. Each head has its own Y-Valve and thru hull fitting. Keep the handle of the Y-Valve pointed to the holding tank, the normal position; unless you specifically choose to dump waste overboard. **Know the Laws.**

The forward Y-Valve is behind the toilet, its thru hull valve is located under the forward cabin floor to port and is labeled "Forward Toilet Discharge to Sea". The aft toilet Y-Valve is located adjacent to the toilet; the blue thru hull valve is below the aft cabin floor to port and is labeled "Master Toilet Discharge to Sea". To use the overboard system (only in approved waters), open the thru hulls for and aft and change the Y-Valve to direct the waste overboard. **Discuss this with San Juan Yachting Staff.**

Occasional toilet brushing with a few drops of dish soap and water will keep the heads smelling fresh.

16. Diesel Heater. The diesel forced air heater operates much like a household furnace. To operate, turn on the TOGGLE SWITCH on the salon thermostat. It is imperative that the heater is always run on high setting. There are three thermostats, one in each cabin and the one in the main salon. The master located in the salon must be running for the others to work. Once the heater is running, it must continue to run for 45 minutes before shutting it off. This allows the heating chamber to remain clear. If this makes the interior too warm, crack a window or hatch.

Check the furnace exhaust port located on the starboard deck amidships for any obstructions such as fenders or lines. The furnace is turned off by switching the TOGGLE SWITCH in the salon; the light on the thermostat will go out.

When it's cool, we recommend warming the boat before turning in for the night, with the last person to go to bed instructed to turn the diesel heater off before retiring. (Otherwise, the boat will get too hot and the electric fan in the diesel heater will drain the house batteries. Then, the first one up in the morning can simply turn the cabin heater back on.

17. Entertainment: The entertainment systems on *SERENITY* are operated using 3 remote controls which are kept in the locker behind the salon settee. The remotes are:

Hughes TracVision/DirecTV remote – This unit controls the TV and the TracVision receiver unit in the bulkhead cabinet above the salon settee. Use this for channel control and volume.

Panasonic TV remote – this unit controls the TV functions when using the DVD only, use it for TV on/off and volume control.

Pioneer remote – this unit controls the Pioneer combination DVD/CD/AM/FM stereo unit located at the chart table.

AM/FM Stereo Radio: The main Pioneer unit is located above the chart table. It operates like a normal car radio. There are 2 speakers in the salon and 2 in the aft cabin. The speakers cannot be controlled separately. Please refer to the Pioneer manual for operation.

CD Player: The CD player is also found in the Pioneer unit. Push the “open” button (upper right) to insert the CD, and then push the off button to switch modes from Tuner to DVD. Volume control on the Pioneer unit operates the two sets of stereo speakers. Again, refer to operation manual.

DVD Player: The Pioneer unit also functions as a DVD player. Turn the TV on with the Panasonic remote, using the TV/Video button, select VIDEO1, it will show on the screen. You should have a blank screen now. On the Pioneer unit push the “open” button and insert the DVD, then close the face of the unit. Push the off button to switch from tuner to DVD. In 30 to 45 seconds you should see a picture. Using the Pioneer remote control, operate the unit as a regular DVD player. The Panasonic TV remote is used to adjust volume.

TracVision/DirecTV: Turn on the KVH breaker at the electrical panel. The TracVision/Direct TV control box is located in the cabinet behind the salon settee, and should be left on all of the time; **only switch the unit on and off at the KVH breaker at the electrical panel.** The unit will show 3 lights on top and you may hear the sounds of the mast receiver searching for a satellite signal. Using the DirecTV remote, aim at the TV and push the “on” button in the upper right corner of the remote, the TV should come on. If not, push the Video/TV button on the Panasonic remote control, select the video input that follows HDM1; then select channel 3, it will show in the upper right hand corner of the screen. If you have a black screen, the TV is on one of the other video inputs and you must toggle the TV/Video button on the TV remote to get to the right input.

Once the TracVision locks onto a signal, you will get a picture on channel 3 which indicates that the unit is downloading from Direct TV and in 15 – 30 seconds you should get a picture. **Direct TV channels are changed by using the Hughes/Direct TV remote, the DirecTV remote must be aimed at the KVH receiver behind the settee to change channels, and at the TV to change the volume. A list of available channels is located under the TracVision/Direct TV receiver; Use the guide function on the remote, select a channel by number and push select, or scroll to the channel and push select.**

If a channel is selected that is on the list and no picture appears, note the extension number at the bottom of the screen and call DirecTV at 800-531-5000 and follow the prompts. The account phone number is 360-756-0836. If the prompts direct you to disconnect the power cord from the TV receiver box, just turn it off at the KVH breaker instead, do not unplug.

When finished watching TV, turn the TV to “off” with the DirecTV remote in the upper right corner and the KVH receiver off at the breaker at the electrical panel.

18. Shower / Sump Pump/ Hot Water.

Hot water is stored in the insulated water heater. It takes 30 - 45 minutes of running the engine under load to get the water hot. When on shore power, or using the generator, you can heat your water electrically by turning on the breaker for the water heater. It takes about an hour to heat the water electrically. The hot water heater uses 10 to 15 amps so watch other utilization when not on shore power. Do not turn the water heater on if not connected to shore power or running the generator. **If you run out of water, turn the water heater off immediately.**

The showers drain to a sump with an automatic sump pump. The water is then pumped overboard.

19. Spares. *SERENITY* is equipped with the following spares: A macerator pump and bilge pump located in the lowest step in the aft cabin. Various electrical fuses and fan belts are located in the port lower locker in the aft cabin with the tool box. Fuel and oil filters are located on top of the starboard fuel tank just inside of the engine compartment.

20. Galley - Stove / Oven / Microwave/ Refrigerator/ Freezer

Stove/Oven: The stove and oven are propane; start them as follows:

1. Open the propane tank valve located in the port locker on the fly bridge and check tank gauge.
2. Turn on Gas Alarm breaker at electrical panel.
3. Press “on” the solenoid pressure switch on the Propane System located above the stove.
4. Push the burner dial in and turn to medium heat, hold the knob in for a short time while The thermo coupler igniter warms up and propane makes its way to the unit.
5. Follow the same instructions for lighting the oven.
6. When finished cooking, turn off gas at stove, turn off Propane System, close propane valve. Leave the Gas Alarm breaker on for use next time.

Microwave: The microwave is best used when on shore power or when the generator is running. It will operate with the inverter but uses a considerable amount of power and if other AC appliances are running, may trip the inverter breaker.

Refrigerator: The refrigerator is powered by both DC and AC power. If the generator or shore power is providing AC power, it will automatically select AC power operation. If no AC power is available, it will run on the house battery (DC). Both refrigerator breakers must be turned on at the electrical panel. The control switch inside the refrigerator can be on low after the initial cooling when using battery power.

Freezer: A freezer is located on the fly bridge. It is dual voltage (DC and AC), and selects its power source the same way that the refrigerator does. The power to the freezer is turned on at the electrical panel and by a separate switch under the wheel at the lower helm. The temperature control is inside the freezer. Be sure the freezer lid is secure and tight to prevent ice build up.

21. Boat Operations:

Getting under way: After starting the engine (paragraph 12), secure the portholes, windows, and forward hatch. At the electrical panel, turn on breakers for the VHF radio, navigation equipment, thrusters, auto pilot and radar. Be sure that the radar, chart plotter, and depth finder are on and working before transferring control of the helm to the fly bridge.

With the ZF shifter in neutral, move to the fly bridge, press the black button on the ZF shifter. A red light will come on indicating that control is now at this helm station. Follow the same procedure when transferring control from the fly bridge to the lower helm. Connect the VHF microphone. Activate the bow and stern thrusters by pushing both “on” buttons down at the same time; a yellow light indicates that the thrusters are active and ready for use. Check each thruster with a short burst in both directions. The bow and stern thrusters work independently and move the boat in the direction that you move the “toggle stick”. **Be aware that if thrusters are not used, they will automatically deactivate after a few minutes.** If this happens, they must be activated again by pressing both “on” buttons. Shift the ZF shifter in and out of gear to check the engine drive.

Disconnect the shore power cord. Assign crew members their various positions and untie the dock lines. After leaving the dock, check around the boat to insure that no lines are dragging in the water.

Cruising: All close quarter maneuvering in marinas, mooring areas, and narrow channels, should always take place from the fly bridge helm. The visibility fore and aft is much better from the fly bridge and it is easier to spot potential hazards in the water.

We ask that you do not run the engine at speeds greater than 2200 RPM. Higher RPM will increase the boat speed marginally but increase the fuel consumption dramatically. We generally cruise at 1600 RPM and achieve an average cruising speed of 7 - 7.5 knots while burning around 2.5 gallons/hour. At 1800 RPM the speed should be 8 knots and the fuel burn rate approximately 4 – 5 gallons/hour. The currents, wind, and sea conditions will cause these estimates to vary considerably. It’s always wise to check the current when planning your day – you can save a lot of time and fuel by traveling with the current.

Check the engine compartment every 2 hours or so, just for peace of mind and to catch anything that might lead to bigger problems later on. Use the engine room blower to help exhaust the heat.

Docking: (You can never go too slow in a marina or while docking)

Move the shift lever in and out of gear to control your approach speed. We generally try to approach a dock at about 20 to 30 degrees, turning the boat parallel with the dock as we get close. Again, always maneuver from the fly bridge when docking. Have the dock lines and fenders ready (at least 3 on a side) before approaching the dock. Give your crew clear instructions on how you will be docking and what each crewmember will be expected to do. It is a good idea to have all of the crew wear life jackets, particularly the crewmember that will step onto the dock to tie up. The swim step is the best place from which to step from boat to dock – once the stern line is secure, this crewmember can move forward to secure the bow line. **Always use spring lines at docks, currents are quite strong in many areas.**

SERENITY'S prop turns counter clockwise in forward gear and clockwise in reverse. This means that the bow will tend to move to starboard in forward gear and the stern will move to port. In reverse the stern will move to starboard and the bow will move to port. When docking on the starboard side, short bursts of reverse engine will cause the stern to move toward the dock and slow the boat at the same time. When given the option, always try for a starboard tie. **Shifting in and out of gear helps to move the boat at a slow speed and gives time to make slight course corrections as you approach the dock.**

Reminder: the thrusters deactivate automatically if not used after a few minutes. Use the thrusters when close to the dock to make slight course corrections. Use them in short bursts of a few seconds with longer “off” periods in between. The thrusters use a great deal of electrical power. If the thruster batteries are drawn down too far, the thrusters will shut off automatically. If this happens, activate the thrusters again. Primary control of the boat comes from the direction of prop rotation, throttle, and the rudder: the thrusters can not replace these boat handling tools. **If possible, do not use the thrusters for longer than 10 seconds at a time:** if the thruster motors overheat, they will be disabled by an internal thermal cutoff switch installed to prevent damage to the motors. If this should happen, the thrusters will not work until the motors cool down which could be several minutes. **Special Note: If conditions might require more thruster employment than the normal short bursts, start and engage the generator. The generator will recharge the thruster batteries more quickly than the engine alternator.**

The articulating rudder is very responsive, use only slight turns of the wheel to change course. We use 1/8th turns of the wheel or less, and then wait a few seconds for the boat to react. Try not to over steer; slight turns seem to work best at slow and moderate speeds.

Remember, slower speed in tight quarters provides time to think and plan your course, and helps to avoid serious problems. I know this has been stated often, but it's important! Shift in and out of gear to proceed at a slow speed.

22. Water Pressure & Tanks.

Water pressure. The “fresh water pump” breaker is located on the electrical panel. Once the fresh water pump is turned on, it will normally run for a few minutes while it pressurizes the accumulator tank. This tank provides uniform pressure for the fresh water system. Once the tank is pressurized, the pump will go off until the tank drops in pressure and needs recharging.

Reminder: Turn fresh water pump off while motoring or when away from the boat.

Fresh Water tank. *SERENITY* has one 200 gallon water tank located under the aft cabin berth. Observe the water level by checking the monitor at the lower helm (W1). The nautical instrument breaker must be on. Waste water from the sinks and showers drains overboard through various thru hulls, usually located under the sinks. To refill the tank, remove the WATER cap located on the starboard deck aft. The hose used to fill the tanks is located in the stern deck box. Avoid flushing debris from the deck into the tank fill opening. Let the water run through the hose for a few minutes before filling the tank.