

Notes from the Owners of Illuminé

Welcome aboard Illuminé! We looked long and hard to find the perfect boat for cruising Northwest waters and believe we found her. We have continued to look at boats (what boater doesn't?) but have yet to find a boat we would rather own (well, okay, at least in the price range we can afford (-:). Here is a list of the primary reasons we chose the Jeanneau 43 DS:

- 3 Cabins – The cabins are large and have great headroom.
- Fast – Illuminé cruises at 8 knots under power and sails like a dream.
- Ease of handling – The two of us can easily handle her; in-mast furling, electric winch on the main, and everything is led aft.
- Deck Salon Design – The raised salon provides vastly improved visibility and light. You can easily see outside while cooking or read without lights on a cloudy day! And, it allowed tankage to be placed under the sole which lowers the center of gravity.
- Roomy Cockpit – 8 people can sit in the cockpit and not feel crowded.

We have done extensive cruising on Illuminé and have her outfitted accordingly. The solar panel, full enclosure, inverter, electric-fresh water head, feathering prop and extra fuel tanks are some examples. She is a capable and comfortable cruiser.

In addition, there are two other reasons we believe Illuminé will prove to be an excellent choice: First, we have made every effort to keep her in “like new” condition. Second, in an effort to enhance the cruising experience we carefully outfitted Illuminé. For example, the galley is equipped for gourmet cooking and we have spices, condiments, baggies, saran wrap, etc. onboard. There are lots of ‘little touches’ (some examples, a toaster, candles for ambiance, hand-held VHF radio, feather comforters, etc). See the inventory list on the web page for more details.

Last season, several of the returning charters said they had been spoiled and could not imagine chartering a different boat. We thank them for the kind words as it was gratifying to know others agreed with our choices. We hope you will feel the same way when you have finished your voyage.

We do have some basic rules we would appreciate you following, mainly no pets and no smoking.

Listed below are some tips on how to get the most out of Illuminé and her equipment. We sincerely hope you have a great time. If you have questions or feedback we would love to talk to you. **You can reach us at 253-529-7277 (home), 206-963-1308 (cell) or 253-852-1543 (work).**

Happy Sailing, Mike & Lauri Huston

Illuminé's Spec's:

Year: 2005
LOA: 43' 4"
LWL: 37' 5"
Beam: 13' 8"
Draft: 5' 2"
Displacement: 20,955 lbs (dry)
Mast height above WL: 60' (with antenna)
Fuel: 106 gal. (3 tanks)
Water: 146 gal. (3 tanks) Hot water: 10 gal.
Holding: 12 gal. Fwd, 20 gal. Aft
Engine: 80 hp. Yanmar (Turbo charged)

Other useful measurements:

Refrigerator
- Main compartment 1' 6" W x 1' 10" x D 2' 1" H
- Chiller compartment 10" W x 1' 10" D x 2' 1" H
Berth mattress sizes
- V-Berth 6' 10" L by 5' 0" W at head (24" at feet)
- Quarter Berths 6' 8" L by 5' 2" W
Headroom: V-Berth 6' 4", Salon 6' 4",
Shower 6' 7", Quarter Berths - 7' 2"

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Key to Markings: Throughout these notes we have use the following convention:

- *Italics* – are used for headings.
- ALL CAPS – is used for safety and operational warnings.
- Underlining – indicates the location of things.
- **bold** – indicates important knowledge or data.

1. *Emergencies:*

Fire – There are three ABC rated fire extinguishers on board. They are located (a) forward cabin port side (b) by your feet if you are standing at the stove and (c) aft cabin port side. All are ABC fire extinguishers which are effective against electrical, grease, wood, and fuel fires. If you have a fire at the stove turn off the gas solenoid switch at the electrical panel.

Hitting a Log, or Running Aground – In case of a log hit or running aground, immediately check for leaks in the bilge and then check for cracks in the fore and aft sections of the bilge where the keel attaches to the hull. Also check all keel bolts. Once you are sure no water is entering the hull contact **San Juan Sailing at 800-677-7245** and proceed to the nearest harbor and have a professional diver check the hull, keel, prop, and rudder before proceeding.

Leaks – First determine the source of the water, check the prop shaft first and then the through-hulls. You cannot get to the shaft seal easily since the wall between the aft cabins needs to be removed first, but you should be able see water flowing at the back of the engine if the seal is broken. There is a diagram showing the location of the through hulls in the notebook. Also, be sure the bilge pumps are running. Get the crew on deck and into life jackets. There are wood plugs wired to each of the through hulls.

There are three bilge pumps. The manual bilge pump is located on the port side of the cockpit, just behind of the steering wheel. The handle is in the port aft cockpit locker just above the pump. The electric bilge pumps have automatic float switches **but the switch on the electrical panel can be used to power the main pump manually (this breaker is normally off).** The float switches and pump intakes are located under the salon sole about 2 feet aft of the mast compression post.

Steering Failure – If the steering system fails there is an emergency tiller in the port cockpit locker. It fits on rudder post which is accessed through the cap in the helm seat. You will want to reduce sail or power when using the tiller since the rudder is large and the tiller is small.

Emergency Equipment – Flares, air and manual horns, etc. are in the aft portside cockpit locker.

Crew Overboard – Throw a Type IV PFD or cockpit cushion to the person in the water first. Second, hit the mob button on the chart plotter so you will know where they are. Then use one of the procedures discussed in the skipper's meeting to get back to the person. We keep the LifeSling mounted on the stern rail, port side, at all times.

2. Anchors and Windlass: Illuminé is equipped with two anchors, one forward (44# Delta with 320' of chain) and a Fortress in the port cockpit locker along with 70' of chain and 200' of rode. The primary chain is marked with poly line threaded into the links every 25 feet and there are two lines in a row at 100, 200 and 300 ft. Additionally, there is a chain counter at the helm.

The scope normally used in the islands is 4 to 1, definitely not 7 to 1 (unless conditions call for it, i.e. sustained winds over 25 knots). Most of the anchorages are well protected and popular, so you will likely have someone anchored nearby. Most coves are 20'-40' deep; so expect to pay out about 100'-175' of chain. After you have paid out the suitable amount of chain, 1-2 minutes of IDLE reverse sets the anchor (you do not need more due to the MaxProp and Illuminé's relatively large engine). Also, the tides can change water depth up to 15 feet in our waters so be aware of where you are in the cycle when choosing an anchorage and deciding how much chain to put out. **Here is an easy formula for how much chain you need; add the water depth on sounder, plus any tide increase expected during the night, plus 5' (to account for the distance from sounder to roller on bow) and take that total and multiply by 4 (typical example would be 25' of water + 6' of tide increase + 5' = 36' x 4 = 144').**

The electric anchor windlass receives power from the start battery. The circuit breaker for the windlass is located behind the companionway steps in the port quarter berth. **Please note the windlass will not run unless the engine is running. In addition, if the engine has just been started it may be necessary to up the RPM's a bit to get the windlass to work. Basically, the system voltage needs to be higher for the windlass to work. This does not happen all the time but is worth noting.**

The up-down controller for the windlass is secured inside the forward locker. Please do not use the windlass controls at the helm as it is very easy to ding the bow with the anchor; anchoring should be a two person job! Also, be sure to take the tension off of the windlass by attaching the snubber to the chain and a cleat (not the windlass), and then running out more chain until the chain on the drum is slack.

Detailed operating instructions are listed bellow:

Lowering the anchor:

- a. Turn on the circuit breaker for the windlass (port aft berth, behind stairs).
- b. Reset chain counter at helm (if desired).
- c. Untie the line holding the anchor in place (this line doubles as the snubber).
- d. Lower the anchor until the needed chain is paid out.
- e. Secure the chain with the snubber and run out enough chain to take the load off of the windlass. **DO NOT LEAVE THE LOAD ON THE DRUM.** If you are expecting wind during the night it is a good idea to run the snubber over port roller and secure it to the port cleat. The reason is this, if the snubber line stays on the starboard side along with the chain it slides from side to side as the boat swings and bangs the chain into the roller brackets. It is quite noisy for anyone sleeping in the V-berth.
- f. Set the anchor by reversing at 800 RPM for 1-2 minutes, **DO NOT go above 1000 RMP.**
- g. Turn off the circuit breaker and, if appropriate, turn on the anchor light.

Raising the anchor:

- a. Start the engine.
- b. Turn on the circuit breaker for the windlass and, if needed, turn off the anchor light.
- c. Turn on the wash down pump, located on the main panel.
- d. Take in enough chain to retrieve the snubber.
- e. When retrieving the anchor, never use the windlass to pull the boat; instead, slowly power toward the anchor while using the windlass (up button on the remote control) to take up the slack. Also, if the anchor is really stuck in the mud you will hear the windlass slow under the load. Immediately stop the windlass and drive the boat forward to free the anchor.
- f. Please use the wash down hose to 'wash' the anchor and chain as it is retrieved. This will keep the boat and anchor locker a lot cleaner.
- g. The incoming chain will pile up against the aft end of the chain locker so the operator needs to reach in and push the pile of chain forward every 20-30 feet of chain. Also be aware the lines

used to mark the chain length can catch in the outlet of the windlass and may cause a jam. Just run the windlass back out for a second to clear.

- h. **Once the anchor is out of the water please bring onto the boat by hand.** Please do not pull the anchor up onto the rollers using the power of the windlass, doing so will likely chip the fiberglass as the anchor swings into the bow.
- i. Secure the anchor by hooking the snubber onto the chain and tying it to the windlass drum (the chain over the drum should not be the only thing keeping the anchor onboard).
- j. Switch the windlass breaker “off” to prevent draining the start battery, then turn off the seawater pump and anchor light on the main panel.

Stern Ties: There are times when adding a stern tie to shore will be handy, especially in Desolation Sound. Illuminé has **500’ of line on a spool** for this purpose. It is stored in the swim step locker along with a 3’ piece of PVC pipe. We use the pipe to mount the spool in the transom walk-through so that the line can easily be deployed and recovered. The recovered line is usually very wet so we leave the spool sitting on end in the walk-through for a couple hours to dry before we put it away.



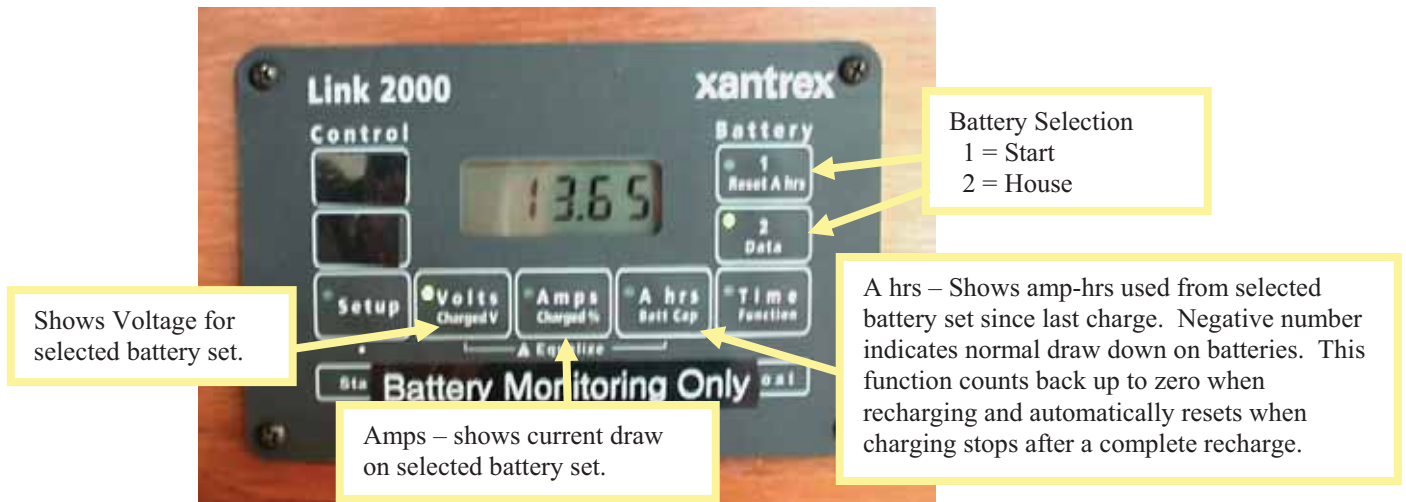
3. Barbecue: The stainless steel propane barbecue is mounted on the stern pulpit. There is a line plumbed from the main propane tanks inside the propane locker to the BBQ. However, you will need to turn on the valve located inside the propane locker. Be sure the BBQ controller is off when opening this valve or the tank valve; having it on will cause the safety system in the main tank to engage and severely limit the flow to the BBQ. When done with the BBQ turn off this valve; **DO NOT RELY ON THE CONTROLLER AT THE BBQ AS THE ONLY SHUTOFF FOR THE PROPANE**. Also, the solenoid switch on the main panel does NOT need to be on to run the BBQ.

4. Batteries, Solar Panel & Inverter: Illuminé has **6 batteries onboard**, one for starting the engine and five to power the cabin accessories. We have her wired for maximum convenience. These two battery systems are separated from each other so it should be impossible to drain the start battery. The batteries are located under the forward portion of the quarter berths, two on each side and two under the salon sole in front of the aft head door. There are also two battery chargers, the inverter and the original charger. We normally have the inverter's charger turned on and leave the original charger off (it is our 'spare').

CAUTION: NEVER TURN A BATTERY SWITCH TO “OFF” WHILE THE ENGINE IS RUNNING! THIS WILL BLOW THE DIODES ON THE ALTERNATOR, AND YOUR BATTERIES WILL NO LONGER CHARGE.

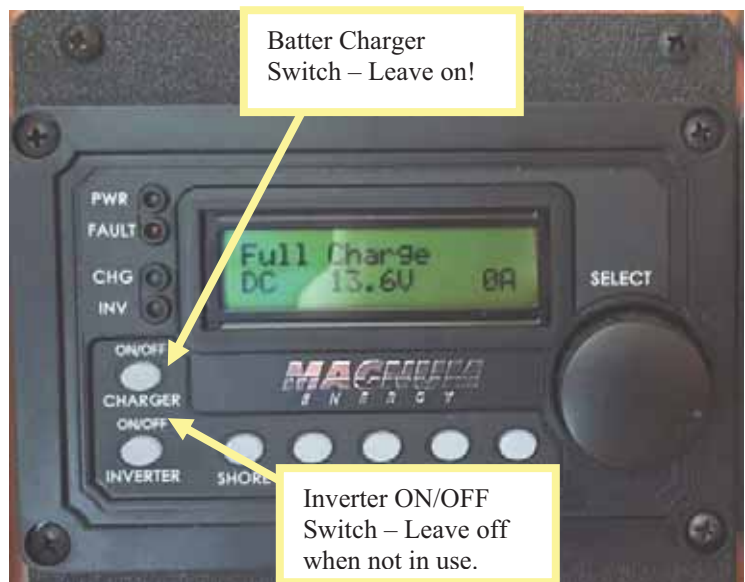
Solar Panel – The solar panel installed over the bimini and is capable of 330 watts. This is enough power to keep the batteries up to full charge when sitting at anchor, assuming ‘normal’ systems usage, i.e. the stereo, light, the heater, etc. and some sun. It will allow limited use of the inverter, say to run the microwave for a minute or two to warm something up. The system is self-controlling and should not require any attention.

Battery Monitor – Illuminé has a Link 2000 which can be used to monitor the batteries (see picture below). The voltage normally starts at 13.5 when fully charged. It will then drop to 12.45 and levels off for quite a while and then start dropping again. When it starts dropping this second time you have very little reserve left. **And it is time to recharge when the voltage gets to 12.2 volts** – PLEASE DO NOT RUN THE VOLTAGE BELOW 12.0 – DOING SO DAMAGES THE BATTERIES.



Inverter– We have installed a **1200 watt inverter** so 110V power can be used at any time. Be careful as it is easy to draw the batteries down. **We suggest leaving the inverter turned off unless you need 110V power; the main risk is running the house batteries low without realizing it.** The inverter control is located in the port quarter berth behind the companionway stairs. The button on the lower left corner is the inverter on/off switch.

Spare Battery Charger – There is a second battery charger which is normally left off unless the main charger fails. The breaker for this charger is on the main 110 V panel (see Electrical Panel section).



5. Berths: Our boat sleeps seven; two in the private cabin forward, two in each of the quarter berths and one in the main salon. All three double berths are quite roomy, each about equal to a queen bed. Also, each of the berths has a memory foam topper to add extra comfort.

6. Cabin Heat: Illuminé has two ways to heat the cabin: the first is a Webasto 5000 forced air furnace and the second is a small hydronic heater run off the engine cooling system.

Furnace – The Wabasto is diesel fueled and is mounted in the starboard cockpit locker. The thermostat is located on the main panel to the right of the stereo. Simply turn on the switch on the thermostat and set the temperature you want. There is a 2-3 minute delay from when you turn it on to when you will hear the fan running. There is a toggle switch on the controller with a fan and flame on it; when the fan is pushed in the furnace is in fan only mode, when the flame is pushed it is in heating mode. The furnace breaker is located in the port quarter berth behind the companionway stairs.

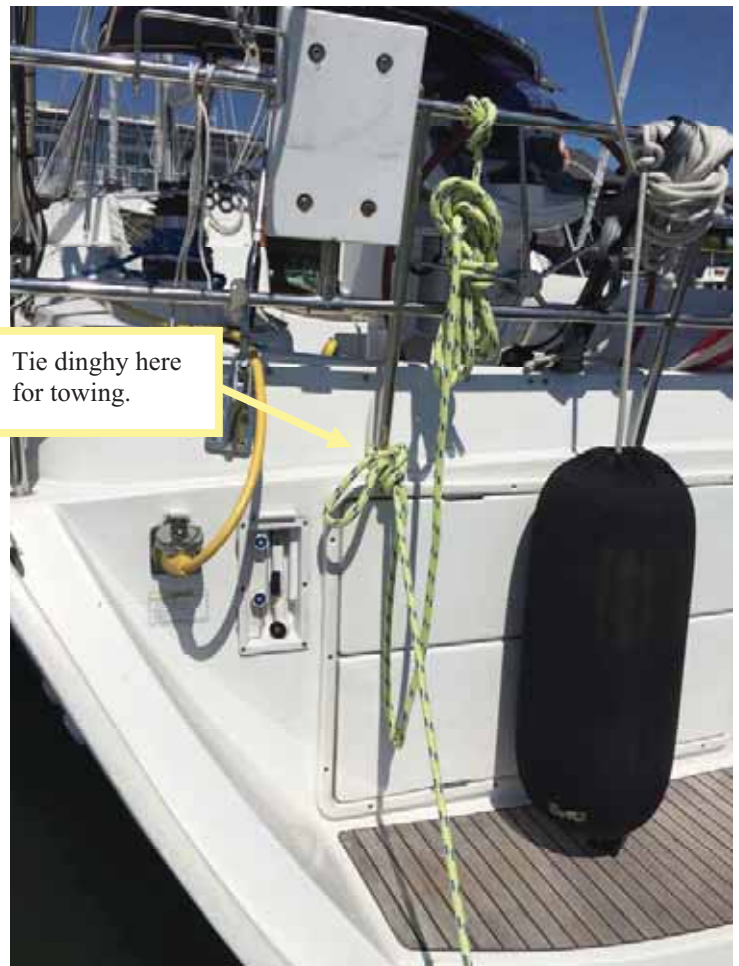
When the furnace is running you may notice a clicking noise, this is the electric fuel pump pulling from the main diesel tank. Also, we do not recommend running the furnace all night (although it is doable) as its draw on the batteries is sizable. It is also fairly noisy, especially from outside the boat, so your neighbors will appreciate it being off most of the night. The heat is dry, comfortable, and on those occasional rainy days or cool evenings, makes a huge difference in cruising comfort!



Hydronic Heater – This heater is located under the aft end of the outer settee seat; it is in the same compartment as the hot water heater. The switch to run the fan is on the main panel and the hot air from it blows into the space under the settee table. This heater works only when the engine is running as its heat comes from the engines cooling system. It is plumbed into the loop that runs engine coolant to the hot water heater and is placed after the hot water tank. This means it will not work at full capacity until the hot water tank is up to temperature. The intent of this heater is to take the chill out of the cabin when running, it is not big enough to fully heat the boat.

7. Dinghy and Outboards: Illuminé is equipped with a 10' Walker Bay hard bottom dinghy and two outboards, a Mercury 9.9 hp and a 2.3 hp Honda. The dinghy is roomy (easily holds 4 adults) and the outboards are easy to operate. The dinghy tows with the least drag if brought close to the boat--about a foot off the stern. This guarantees that you won't accidentally wrap the painter around the propeller when you back up! **Also, it tows best when tied to the stern pulpit base just inboard of the 9.9's prop. If it is tied to the port cleat it tends to hunt, moving inboard to the stanchion eliminates the hunting and having it on the port side keeps it away from the engine exhaust.**

As owners, we would very much appreciate your special care when beaching the dinghy. Beaches in the San Juans are seldom gentle, sandy beaches; most often they are rocky and covered by barnacles equipped with extra sharp rubber cutters. Here's what works best: launch a person off the dinghy bow as you approach shore; then offload everyone over the bow. Lift the dinghy above barnacle height and deposit it gently on the beach. We also secure the painter under a rock or to a log – a rising tide can leave you high, dry and dinghyless!



Both outboards have four stroke engines, so do not add oil to the gasoline mixture – they use straight gasoline. San Juan Sailing will be sure you have full gas cans which are normally in the swim-step locker. This is the only locker where the gas fumes will not get into the boat. **Also please do not cruise with the outboards on the dinghy as a large wake or gust of wind can overturn the dinghy.**

The Honda is light so it's easy to transfer from the stern rail mount to the dinghy transom (and vice versa) by hand. The Mercury is not light, so we installed an outboard crane to get it on and off the dinghy. We tend to use the Honda for short trips to the beach or harbor and the Mercury if we are going exploring or the run is long enough where extra speed is handy. **Please note the Mercury has enough power to get the dinghy up on a plane with two adults onboard, but not three or more.**

Honda 2.3 hp Operating Instructions:

Starting the Outboard

- a. Push the fuel valve lever (starboard aft corner of the outboard) aft to open.
- b. Pull out the choke switch (starboard forward corner of the outboard).
- c. Open the air vent on the top of the fuel cap by turning counter-clockwise.
- d. Make sure the black U-shaped kill clip (with the red lanyard) is clipped into the red shut-off knob (port forward corner of the outboard).
- e. Turn the handle throttle ¼ turn counter-clockwise.
- f. Pull the rip cord until it starts (you shouldn't have to pull it more than 5 times).
- g. There is no transmission--just throttle up to go forward and throttle down to stop. If you want to go in reverse--just swivel the outboard around 180 degrees.

To Shut Off

- a. Shut the outboard off by pushing in the red shut-off knob (where the kill clip is clipped in). Or just pull the red lanyard until the clip pops off.
- b. To avoid prop damage, shut the outboard off and raise it out of the water before you reach the shore. Pull the outboard forward and out of the water until it clicks and stays in place.
- c. To put the outboard shaft back in the water, release the stainless steel lever on the starboard side of the shaft.
- d. Put the outboard back on the outboard mount on the stern rail and tighten both braces.
- a. Push the fuel valve lever forward to close and close the air vent on top of the fuel cap

Troubleshooting

If the engine won't start, review steps 1-6 above to make sure you've done all 6 steps. There is a spare spark plug and spark plug wrench in with the safety equipment in case you need them. If the outboard is running and you're heading toward shore, and the engine suddenly quits, it's usually that someone has forgotten to vent the fuel cap. If the engine is running fine but the propeller isn't moving, the shear pin is probably broken – just take the cotter pin out to remove the propeller and replace the broken shear pin (a spare pin is located forward of the shaft under the handle grip).

Mercury 9.9 hp Operating Instructions:

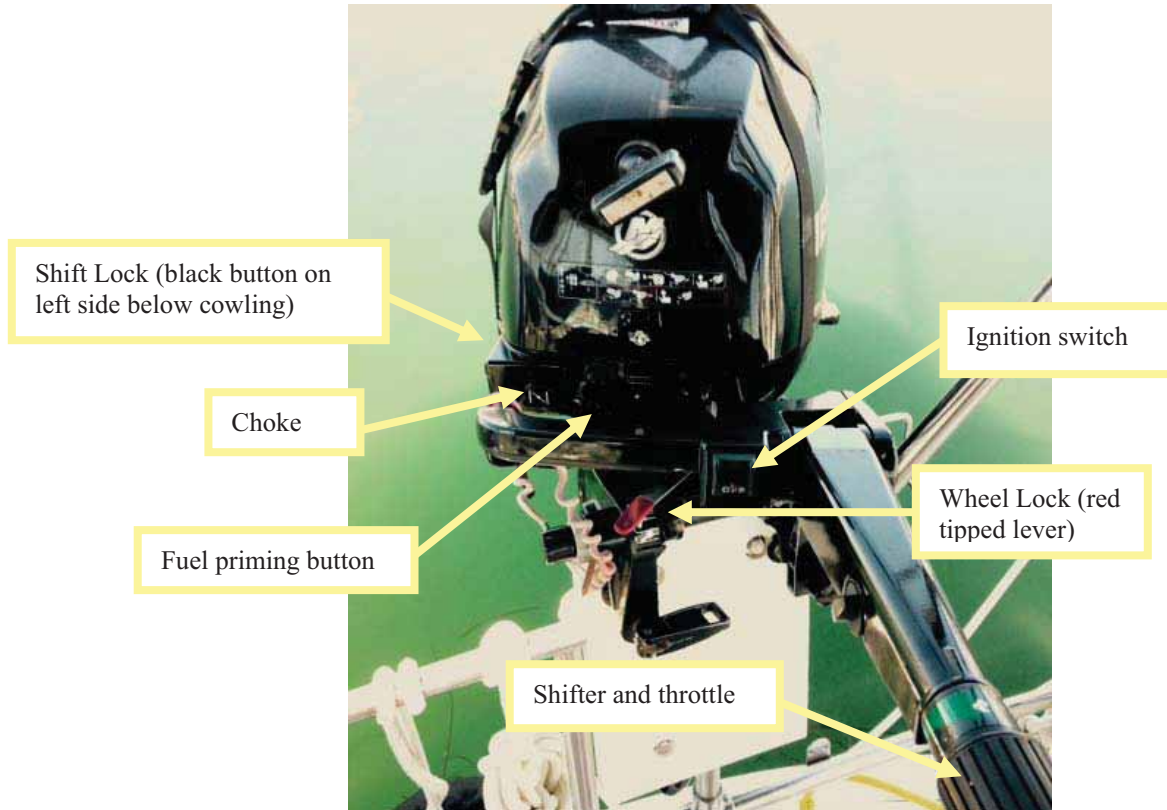
Outboard Crane Operation

- a. The dinghy will need to be untied from the station by the 9.9 and re-tied on the other side of the boat so the stern can be brought over to under the crane.
- b. Untie the block and tackle line and pull hard enough to take the weight of the outboard.
- c. Loosen the transom clamps and slide the outboards off the mounting rack by pulling the engine towards you. Note the crane is not tall enough to lift the motor up off the rack.
- d. Lower the outboard to the dinghy and clamp to transom.
- e. Before lifting the outboard back onto the boat tighten the 'wheel lock' by moving the red tipped handle to the left. This will steady the motor making it easier to handle.

Starting the Outboard

- a. Attach the fuel tank hose to the motor and pump the bulb until firm. Also, be sure air vent on fuel tank is open.
- b. Pull out the choke (starboard forward corner of the outboard) and push the rubber fuel priming button on the motor several times (not the bulb in the fuel line).
- c. Turn on ignition switch.
- d. Pull the rip cord until it starts (you shouldn't have to pull it more than 5 times).

- e. If needed, you can push shift lock (the black button on the left side of the motor) and turn up the throttle a bit. This button is like the red button on Illuminé's shift/throttle system.
- f. Once the engine is started, move the 'wheel lock' lever to the right to free up the steering.



Tilting the outboard

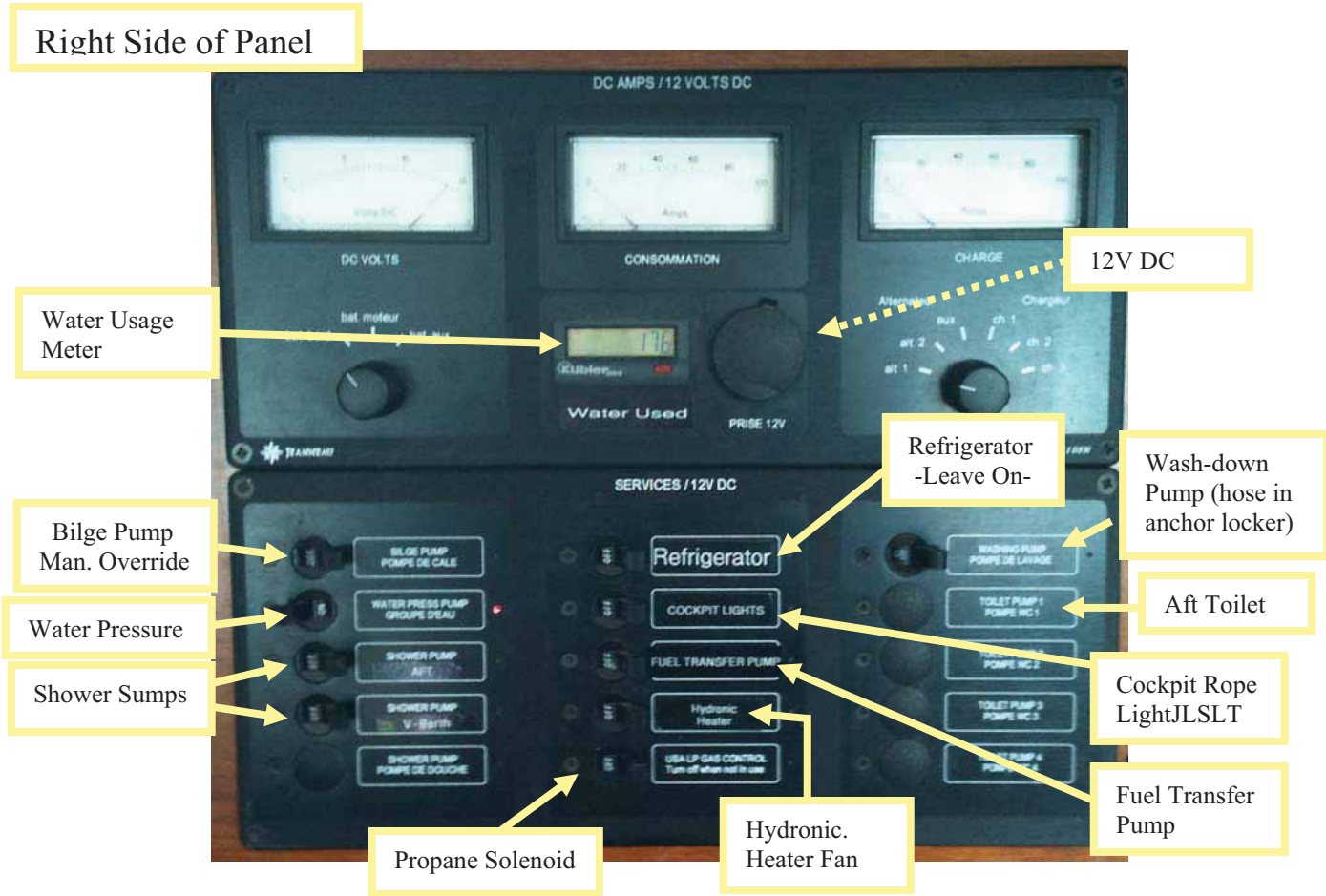
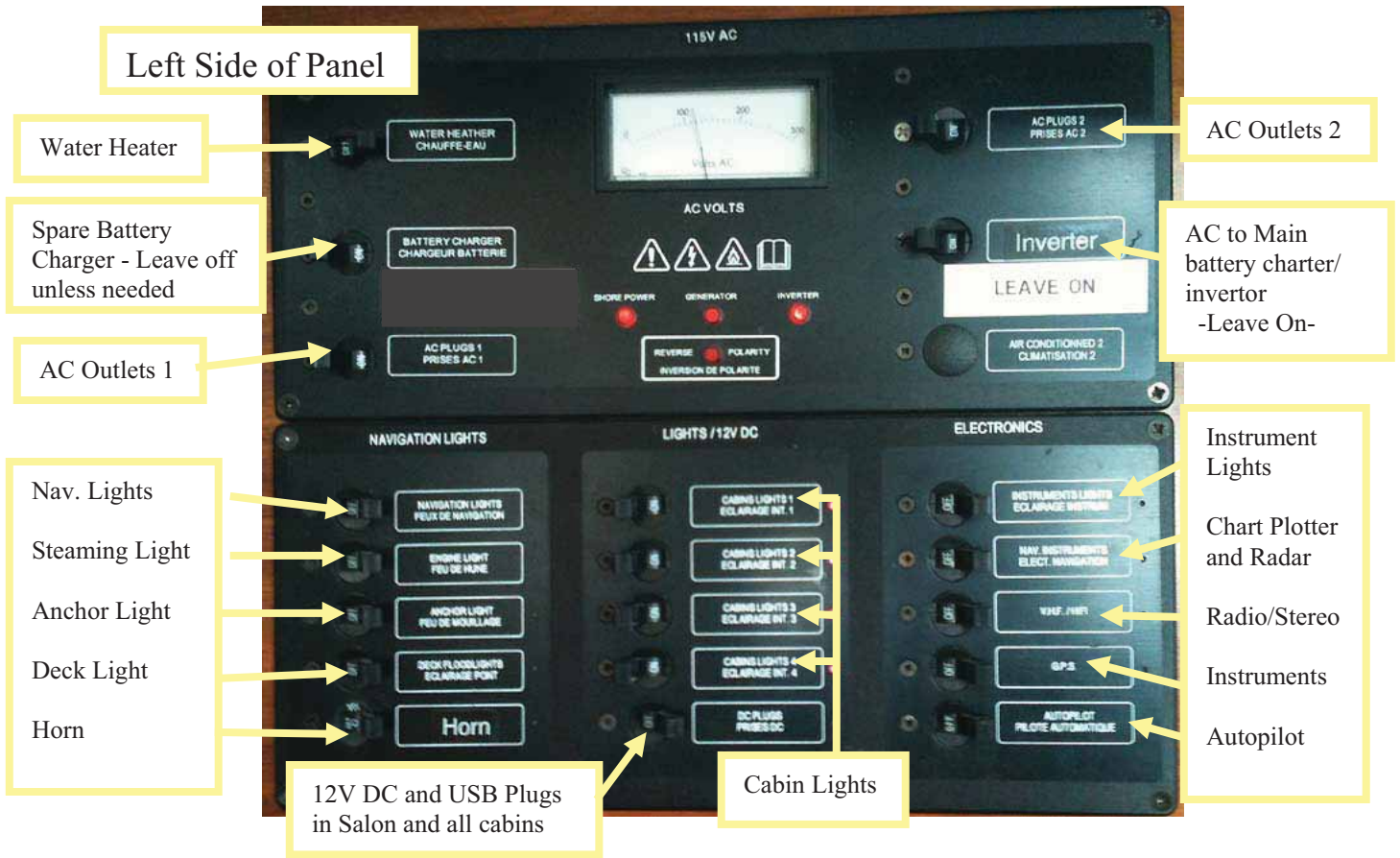
- a. Shut off the engine by pushing the ignition switch down.
- b. Move the 'wheel lock' lever to the left to keep the motor from swinging.
- c. Turn the shift handle back into forward gear – this frees the tilt lock mechanism.
- d. Lift up the shift handle until it locks in place and then use the handle as a lever to tilt the motor.
- e. To un-tilt the outboard push down on the shift lever to further tilt the motor until you hear a click. The motor should be free to drop back into the water.

8. Docking: Illuminé has a shoal keel and a relatively high freeboard; this combination can create some sideslip in heavy winds. We find it is helpful for the person handling the lines to take a line from the mid-ship cleat, this allows them to pull the boat to the dock without 'losing' the stern. The other important issue is prop-walk – **Illuminé has some walk to port**. Be aware of this when planning your docking. For example, if you can get a bow-in, port tie slip the prop-walk will pull the stern into the dock when you go into reverse.

9. Dodger & Bimini: As with all dodgers, please be gentle. If the glass becomes spotted with salt please get a pot of fresh water from the galley sink and "flood" the salt crystals off the plastic. Our dodger has some very handy rails on the back and sides that make staying upright and onboard easier. The connector canvas between the dodger and bimini can be removed by unzipping it. When you remove it please fold and store it so the windows do not crease.

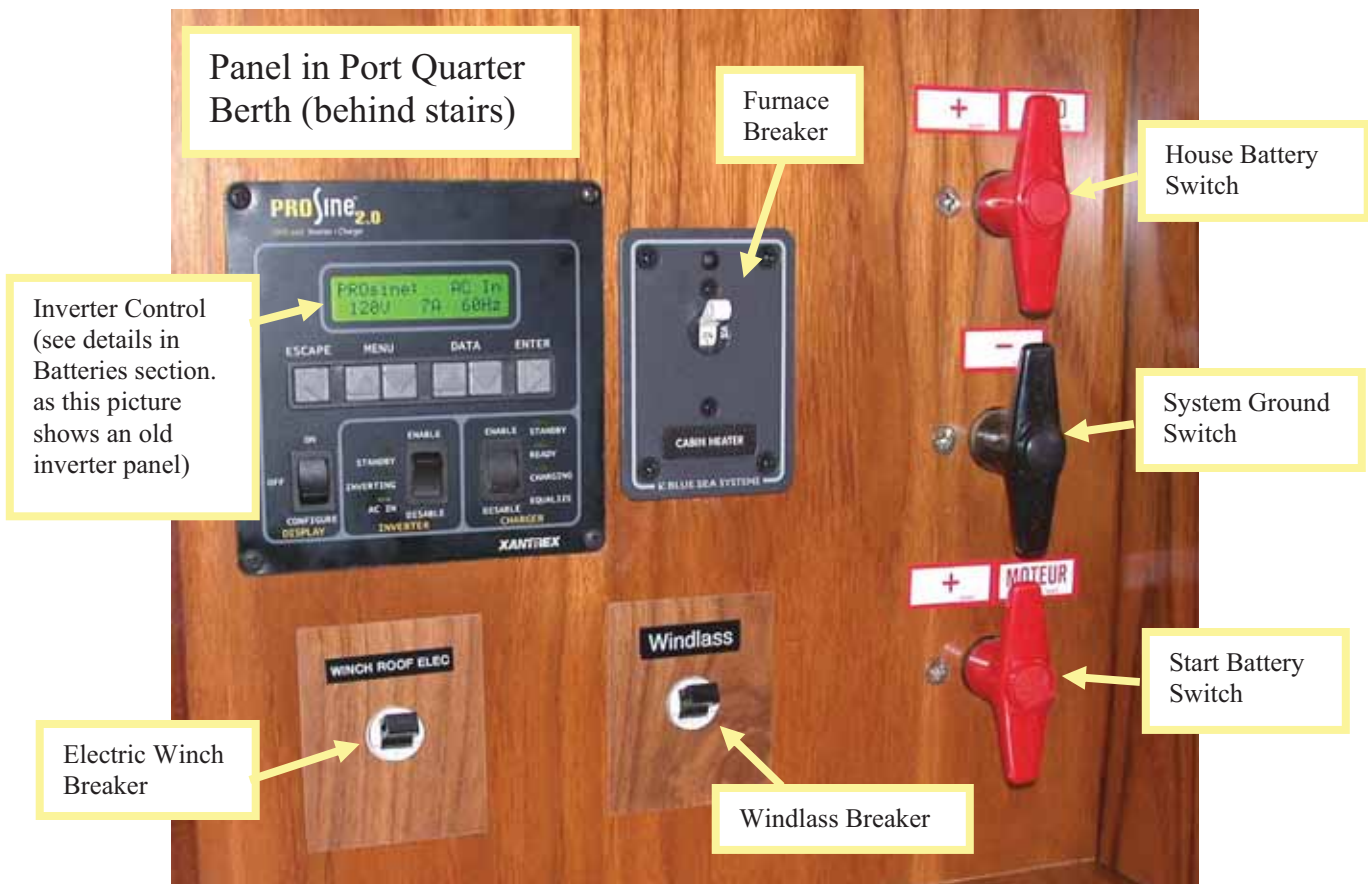
We also have the panels to create a full enclosure around the cockpit. However, when not zipped in place they are a bit bulky to store, therefore we do not have these on the boat for summer charters. If you are doing a spring or fall charter and would like to use them please let SJS know ahead of your boarding.

10. Electrical Panels:



11. The electrical panels on *Illuminé* are straight forward and clearly marked. When you leave the boat at the end of your trip the only 12V switch that needs to be left on is the refrigerator. On the 110V panel the inverter switch should be on (the outlets can be left on if desired). The heater switch and inverter switch in the quarter berth should both be turned off. The left AC Outlet breaker services the aft cabins, galley and starboard salon outlets. The right breaker services the port salon, V-berth and forward head outlets. We have also added a string of LED rope lights for cockpit lighting. They are mounted under the bimini, the breaker is labeled Cockpit Lights.

IMPORTANT: There is one other breakers not shown in the pictures; the main 110V breaker is located in the aft port side cockpit locker (same locker as the safety equip.). If shore power is not working check this breaker – up is on.



12. *Electronics/Instruments:*

Phone/Device Charging and CPAP Machines – There are 12-volt cigarette lighter type outlets and USB plugs in all the cabins and salon. Also, since we have an inverter you can charge using a normal 110-volt charger. Cell phone coverage is good in Friday Harbor and Roche Harbor. It is spotty elsewhere. For CPAP machines, the plugs in the cabins are near the bunks.

Chain Counter/Windlass Controller – We have installed a chain counter with its readout located at the helm. This allows the person at the helm to see exactly how much chain is out. This same instrument provides control of the windlass. It is not practical to bring the anchor in from this position since the chain will pile up and the windlass will jam. However, it is possible, although not recommended, to let the anchor out using this controller. Obviously, the anchor would need to be untied and lowered into the water by hand first. Note the power to this controller comes from the windlass breaker, not the instrument breakers.

Chart Plotter/Radar – We have a large-screen color chart plotter installed at the helm. It is integrated with the radar. The “G.P.S.” breaker must be on at the electrical panel power the unit. Then press the red power button at the unit. It will default to the chart plotter screen. Then press “Find Ship” soft key to display the ship’s position on the screen (usually accurate to within a few feet of your true position). By pushing the “Page” button, you can select the radar display or a split-screen with chart plotter and radar. The manuals for the chart plotter and radar are in the chart table pedestal.

To turn on the radar press the red button in the lower left corner once. This will bring up a menu on the bottom of the screen with two options on the left side: Radar and Scanner, see simulation below:

RADAR	SCANNER
TX STDBY	ON OFF

The scanner needs to be on before the radar will work so if Off is highlighted press the button below Scanner once (if On is highlighted skip this step). **The scanner takes about 70 seconds to warm up so it will look like nothing is happening – be patient.** Once the scanner is on the Radar option will be available – press the button below it to start transmitting. If you want to stop transmitting push the button below Radar once more to go to standby mode. If you are done with the radar for the day push the button below Scanner to turn it off. Please note this process also takes over a minute. When not using the radar it is recommended to be “standby” as it uses a fair amount of power when active.

We recommend that in addition to using your PRIMARY navigation aids – namely, the Maptech waterproof chart book or the roll charts (with the most active “killer rocks” marked in red). The best way to stay off the rocks is by knowing where you are at all times. And the primary role of the chart plotter is to verify that you are where you think you are.

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 that we’ve encountered in the islands usually forms in the wee hours of the morning and burns off by mid-day. So if it’s a little soupy after breakfast, we put on an extra pot of coffee until it lifts. Please remember that SJS contracts do not permit night or restricted visibility sailing. However, you can watch the radar screen and also what’s actually happening around you to develop a familiarity with what it looks like. It’s good to practice in case the fog rolls in while you are underway.



Depth Sounder – The digital depth sounder will not give accurate readings beyond 400'. It is designed for use in shallow waters. In deeper water, the sensitivity on the unit increases as the transducer tries to get some reading back. Consequently, when you are in deep water false readings caused by currents, changes in water temperature, fish, etc are common. These false reading often report very shallow water so knowing you are in deep water is important. Also, if the word DEPTH is blinking on and off it means the unit is not getting a return signal (i.e. you are in very deep water). The depth showing on the sounder is being measured from the transducer (about 18" under true water level) so the water under the boat is really a bit deeper than the reading. But we strongly recommend leaving 10-12 feet of water under the boat.

We suggest using the depth sounder mainly as an aid to navigation in shallow water. However, the key to avoiding rocks is not the depth sounder – but knowing where you are on the chart at all times. ROCKS ARE THE SINGLE BIGGEST NAVIGATIONAL AND SAFETY HAZARD IN THE ISLANDS – BUT THEY ARE ALL MARKED ON THE CHARTS. We do not recommend using the alarm. Experience in the islands tells us that it goes off at the wrong time – usually the middle of the night as a seal or fish passes underneath.

Knot Meter – If the digital knot meter shows a reading of “0.00” while underway, the impeller is most likely clogged. Sometimes it will clear its self; wakes from big powerboats are good for this. You can also try clearing it by traveling in reverse. The instrument transponders are under the forward end of the salon just port of the mast. You can remove the impeller to clear it but only if you are experienced in such things. If needed, the SOG (speed over ground) reading on the chart plotter will work as a standby knot meter.

A.I.S. – Illuminé is equipped with an Automatic Identification System. This system will show most commercial vessels on chart plotter screen as triangles. The triangle points in the direction that vessel is moving and if you move the cursor over the triangle the system will give you addition information (such as name, size, speed, etc.) about the vessel. The system also transmits this same type of information about Illuminé to other vessels with A.I.S. This system should come on automatically when chart potter is turned on.

Stereo – We have installed a good quality car stereo/CD player on the electrical panel and with speakers in the cabin and cockpit. Please be aware of other boats when you are in harbor and adjust the fader so that the cockpit speakers are turned off when not in use.

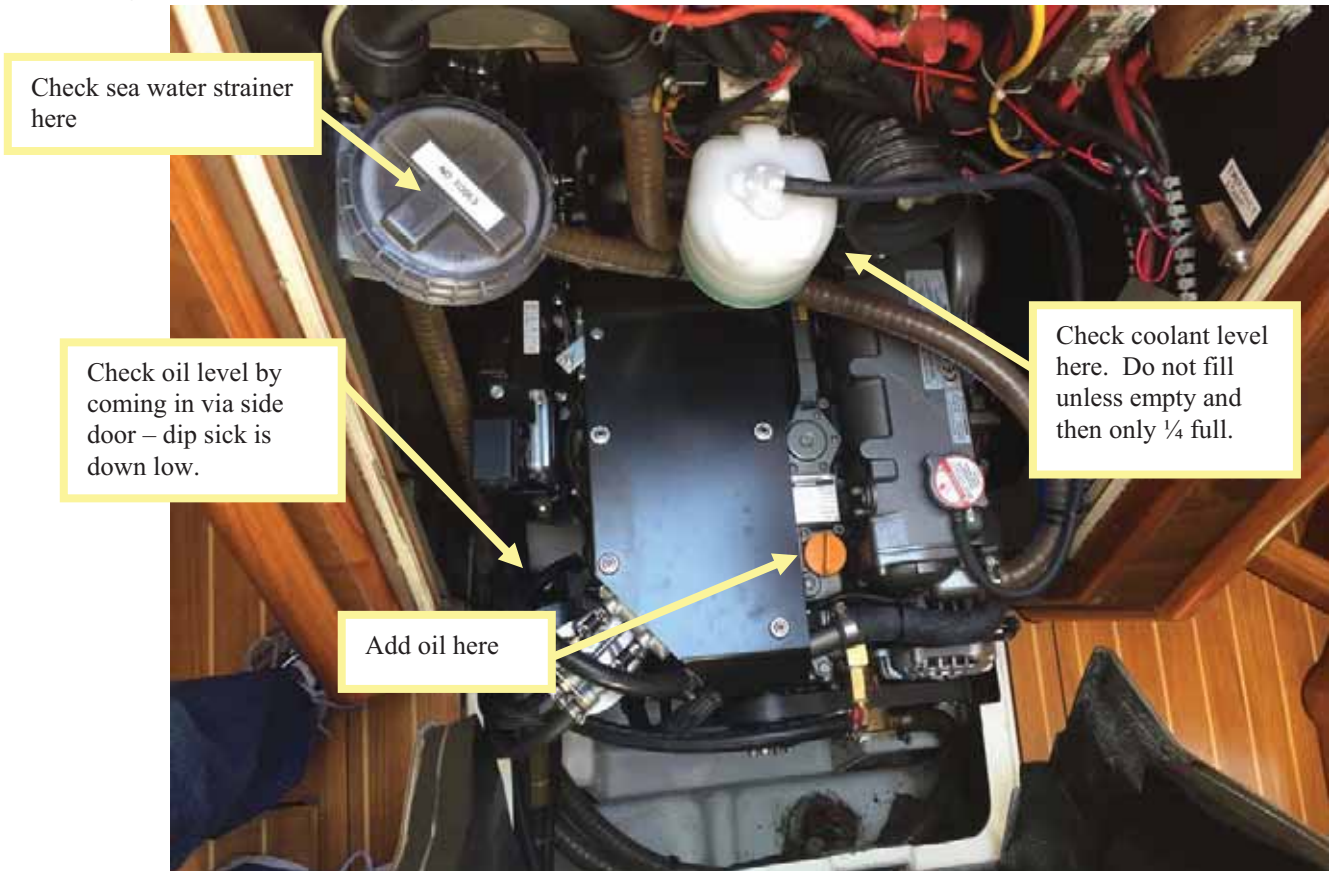
TV/DVD Player – We have an HDTV with built-in DVD player on board for your enjoyment. We left it portable so the kids can watch a movie in one of the staterooms while the adults enjoy the salon. The main risk in this is having the TV fall to the floor. So, please buffer the TV with some pillows or the like, especially if you are underway. You will need the inverter on to use the TV unless you are hooked to shore power. The remote control is normally stored in the chart table and we store the TV in the bottom of the V-berth hanging locker with a life jacket on either side of it.

VHF Radio – The main radio is mounted at the nav station and a RAM mic is mounted in the cockpit. If the RAM happens to come unplugged please turn off the radio before connecting the mic as THE RADIO CAN BE DAMAGED IF YOU PLUG IN THE RAM MIC WITH THE RADIO ON. There is also a hand held unit for use in the cockpit or ashore.

We recommend that you monitor Channel 16 during your cruise. It is reserved for emergencies and boat-to-boat initial contact. After contact, move to channels 68, 69, 72, 74 or 78. We listen to weather channels 1, 2, 3, 4 or 8 (whichever gives the best reception) before we sail in the morning and prior to anchoring for the evening. The islands are generally a light wind region but weather changes can be sudden. Listen for the reports identified as “Northern Inland Waters”. **San Juan Sailing monitors channel 80** during office hours The San Juan Sailing office phone is 1-800-677-7245.

Wind Instruments – Wind speed and direction are displayed at the helm.

13. Engine and Operating Under Power:



Starting:

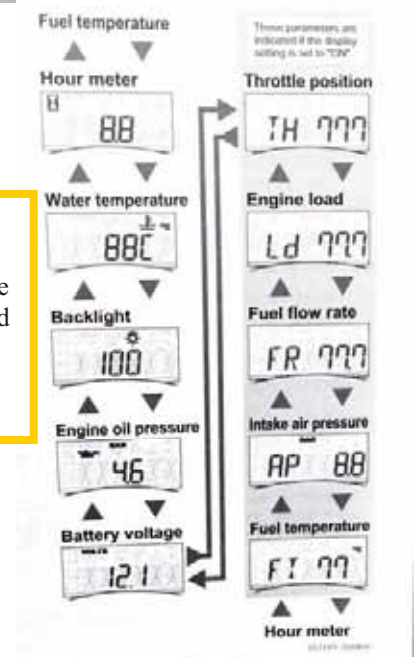
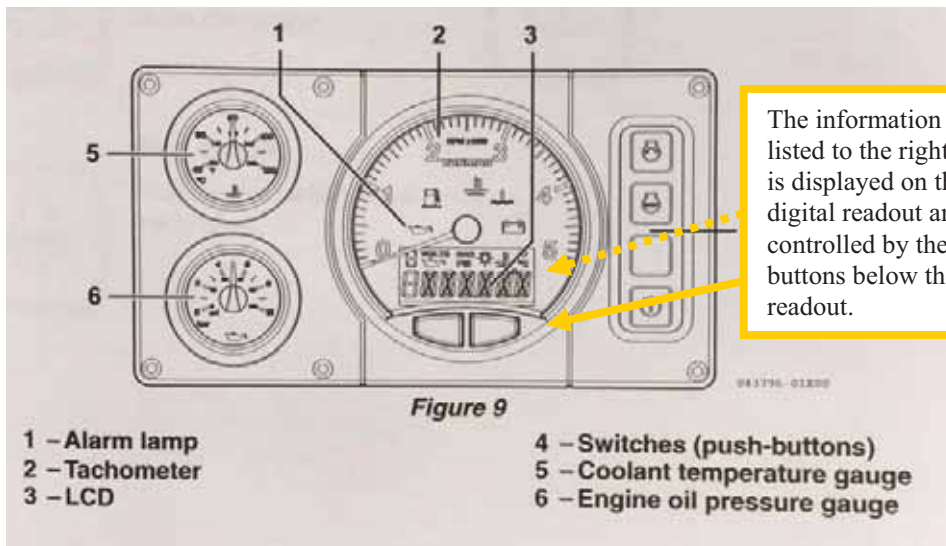
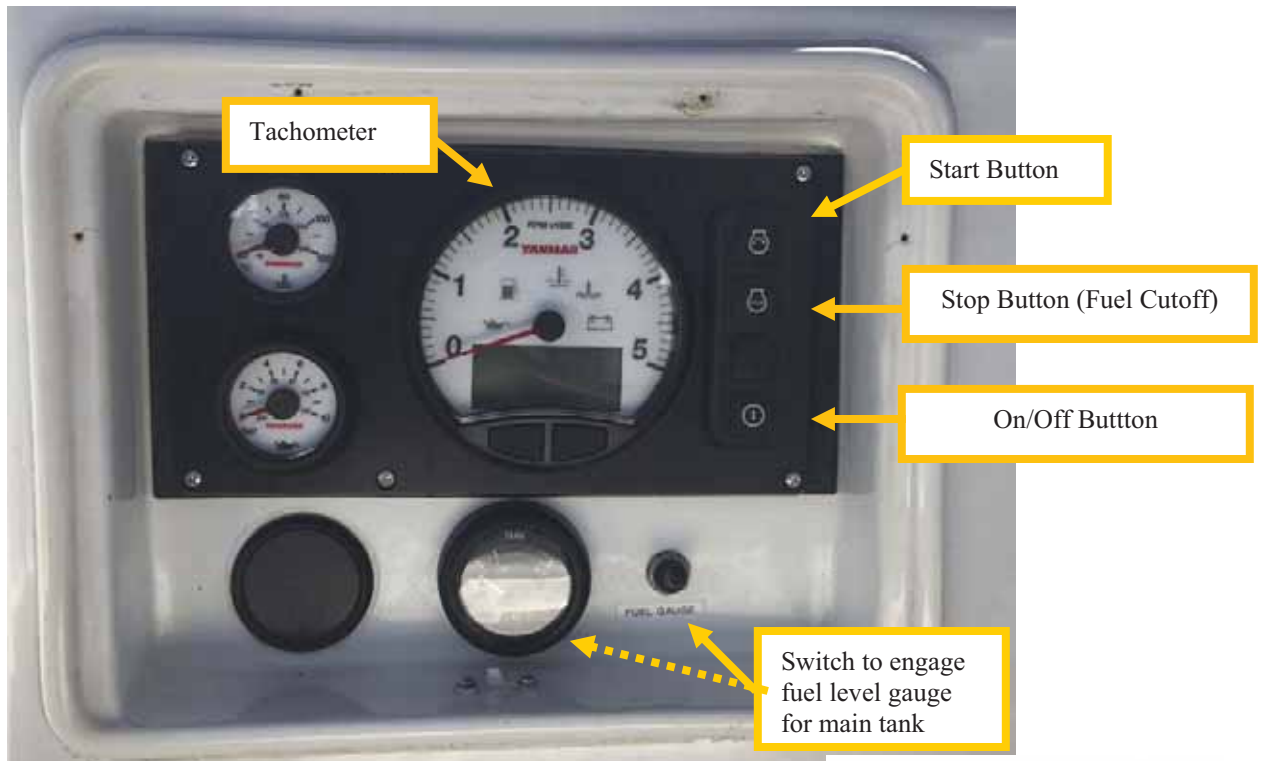
- Check the oil level. The dipstick is easily accessed on the starboard side of the engine. The best access is via side door in galley (see picture above).
- Make sure the gearshift is in neutral (approx. vertical).
- Turn on the panel and push the start button.
- After she starts, check for water flowing out the exhaust.
- Please allow 4-5 minutes of warm up before placing a load on the engine.**

Operation – We have found the **80 HP Yanmar engine** to be very reliable. **Cruising should be done at engine RPMs of 19 to 2300**. Because the engine is turbocharged it is not good to run it below 1900 for long periods of time. The following table gives approximate cruising information:

RPM's	Boat Speed	Fuel Consumption	Range - Main tank only	Total Range using all tanks
1900	7.5 Knots	Approx. 1.3 gal/hr	230 Naut. Mi.	535 Naut. Mi.
2100	7.9 Knots	Approx. 1.5 gal/hr	209 Naut. Mi.	488 Naut. Mi.
2300	8.2 Knots	Approx. 1.6 gal/hr	205 Naut. Mi.	475 Naut. Mi.

The ranges listed assume a 25% reserve in the 53 gal fuel tank. We find pushing the engine beyond 2500 RPM or 8.3 knots does little good as the boat reaches hull speed at about this point.

Also, there is a blower in the engine compartment which is vented in the transom walkway between the cockpit and the swim step. This blower is temperature controlled so do not be surprised if it comes on automatically.



Engine Overheat – If the buzzer sounds while the engine is running look to see if there is cooling water exiting with the exhaust and shut the engine down if you can do so safely. Overheating is the most likely cause for the buzzer. It is worth doing a onceover on the oil level, coolant level and raw water strainer. If you see something obvious and can fix it great, if not please call us, **Matt with Pacific Marine Electric at 360-631-3731** or San Juan Sailing for assistance.

Engine Starting – First push the On/Off button (bottom right of panel). It only takes a quick push – if you push it in and hold it too long it will turn on the then right back off again, just a quick push. Then, once panel has booted up, push the Start button (upper right).

Engine Shutdown – First make sure the engine is at idle and the gearshift in neutral. Then push the Stop button for about 2 seconds. You can also use the On/Off button, doing so will kill the engine

and turn off the panel. If you are sailing when you turn off the engine you may need to put the gearshift into reverse just for a second; this helps feather the Maxprop. If the prop needs feathering you will likely hear the shaft turning when you go below.

14. Fuel Tanks and System: The main tank feeding the engine holds 53-gallons and sits under the salon floor (under aft large hatch next to sinks). The fuel shut-off valve is located on top of the tank. The fuel gauge is located at the helm and can be activated by the switch in the same area (see notes under Engine operation above). Do not believe this gauge, it has a tendency to stick and show more fuel than may actually be there. Instead, note the hours when you leave and fill the tank if have run 25-30 hours. The engine hours can be viewed using the digital readout on the engine panel, see diagram above.

When filling the tank listen closely and stop as soon as you hear fuel coming up the fill pipe. It will foam out the vent if you go further. The deck fitting for the main tank is on the port side about mid-ship.

There are two additional fuel tanks which are not normally used, nor are they really needed for a normal one week charter. If you are chartering for more than one week and going far enough (say to Desolation Sound) to warrant using the additional tanks please request the Fuel System Supplement to these notes. Your check-out person will provide some additional training along with the extra notes.

15. Galley: For those of you who are interested in fine dining while on vacation, we have done our best to setup Illuminé with a well-equipped galley. We have place settings for eight on board and most of the pots, pans and utensils needed for food preparation. There is usually a large assortment of spices condiments and supplies on board. The following list is intended to give you a flavor of what we try to keep on board. Please note that no refrigerated items are included.

- Spices – most common spices are there, i.e. salt, pepper, oregano, sage, thyme, garlic salt, dried chopped onions, etc. The assortment is really quite good.
- Condiments – Cooking oil, olive oil, red wine vinegar, Worcestershire sauce, A-1 sauce, Tabasco sauce. Some spices are in the rack above stove and more, along with the condiments, are located in storage under galley sole.
- Supplies – saran wrap, aluminum foil, baggies, containers, garbage bags and coffee filters.

All we ask is when you use the last of something that you replace it. There is also an assortment of cleaning supplies should you need them, some under the sink and more in the cabinet in the shower.

Microwave – We have installed a microwave in the galley for convenience. You will need to be sure the inverter is on before using unless you are hooked to shore power. Also, the AC Outlets switch on the left side of the 110V Panel will need to be on.

Toaster – Same story as the microwave. Be aware both can run batteries down quickly!

16. Heads and Holding Tanks: Please do not put anything in the toilet that has not been eaten. Experienced sailors deposit toilet paper in a wastebasket, not down the toilet because paper tends to clog the system. The forward head has a standard (manual) toilet and the aft head has an electric auto-flush toilet. Operation of the electric head requires the associated breaker on the panel be turned on (second down on the right hand row). It flushes with fresh water so the water pump will also need to be on. The controls are next to the toilet (sink side), see picture right:

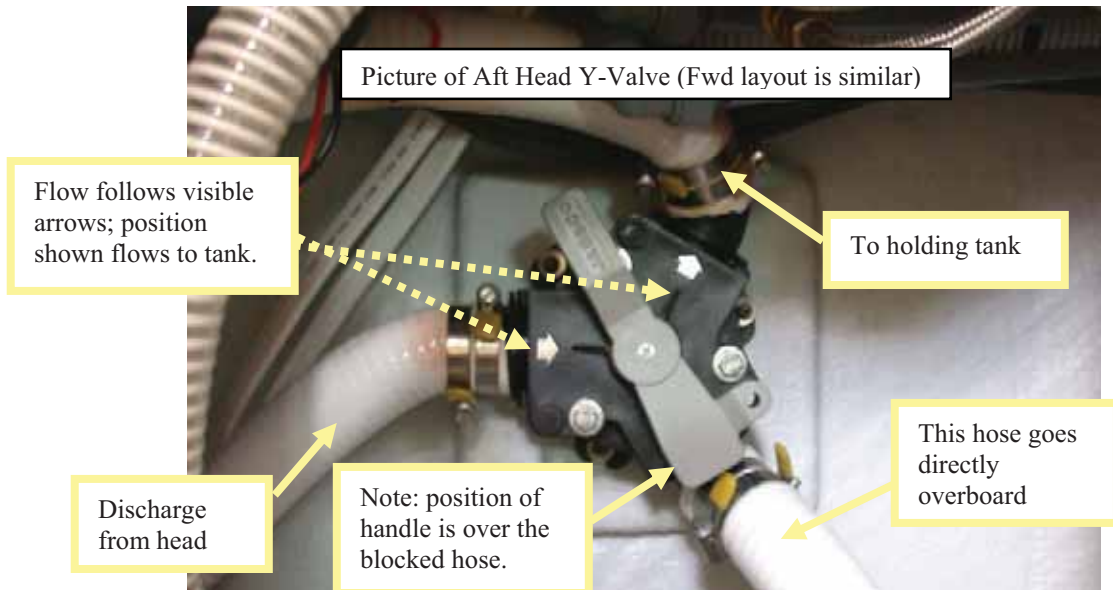


Press button 2 to Auto-flush (adds flush water and drains bowl). Press button 1 to manually add water to the bowl and press button 3 to manually drain the bowl.

One last hint, the door to the aft head from the salon will swing and bang if not held in place. So, you can close it or use the bungee cord we have install to keep it open (see pictures below). We prefer you use the method shown in the first picture and in rough conditions the method shown in the right-hand picture will hold it tighter but tends to rub the door.



Each head has its own holding tank, the **aft one holds 20 gallons and the forward one holds 12 gallons**. There are Y-valves located in each head under the sink. They are normally set to have the head pump into the holding tanks. On the Y-valves there are silver arrows indicating flow in and out; the arrows that are showing indicate the direction of the flow. This is backward from what is intuitive when you look at the handles.



The tanks can then be dumped overboard (if you are in Canada) by opening the drain valves: In the aft head the tank drain valve is under the sink and in the forward head it is located behind the toilet, open lower door outboard of toilet to access. The valve under the forward sink is **NOT** the correct valve. Please note these are gravity drain tanks, there is no need for a macerator. They will normally drain in less than a minute (you will hear them finish with a ‘woosh’ if the engine is not running); or pump out when in harbor. If you want to pump out the tanks the deck fittings are on the port side. If you have four people on board and have ‘normal’ usage, the tanks will need to be emptied every other day. If you have more onboard or

heavy usage, please dump or pump every day. **There is no level indicator so being ‘regular’ with your dumping is important** – sorry about the pun (-:.



Picture of under Aft Head Sink. There is a similar valve in fwd head BEHIND THE TOILET; NOT the one under the sink.

To drain holding tank simply open this valve. The flow is gravity fed, there is no macerator.

17. Refrigerator: The on/off switch is on the panel and the thermostat is in the cupboard next to the microwave. We usually keep the thermostat set a little below 6. Any higher and things start to freeze. Also, we normally leave the unit running 24 hrs a day without battery issues. The box is broken into two sections; the larger one (aft) has the coils in it and keeps things the coldest. The forward one is smaller and does not have coils, just holes letting cold air in from the aft box. It works best for fruits and vegetables that do not need to be really cold. We find that our ice lasts longer (usually several days) if we put the ice in the back-right corner against the coils. If you have meat you want to keep good and cold this same area is useful.

Drain Pump – As your ice melts you will need to pump out the water that collects in the bottom of the icebox. We have installed an electric pump for this purpose. The switch is to the right of the sink just under the counter lip.

18. Repairs (Tools & Spares): It is our goal and hope that you will not need to make repairs during your trip. That being said, we have also provided a good selection of tools and spares in case you need them. The tools are stored in one of two locations: the smaller tools used most often are under the sole of the dinette, forward end. In this same location we have miscellaneous hardware, tape, wire ties, etc. The rest of the tools and the spare parts are under the forward end of the dinette. The spares include engine filters and belts along with a replacement head pump. If you have problems that you are not comfortable handling please call San Juan Sailing, our maintenance pro (**Matt with Pacific Marine Electric at 360-631-3731**) or us (see numbers on page 1).

19. Sails and Rigging:

Mainsail – Unlike a standard main, it is best to have wind in a furling main when deploying, similar to deploying a furling jib. The wind adds even pressure all the way up the mast and helps the sail deploy. This even works going down wind (in moderate winds, up to about 15 knots). The new main is made of laminate which is slippery, this helps the sail deploy. Since we put on this new sail we there have been no issues with unfurling. However, should you have any issues or questions please feel free to call me, I really don't mind – my cell number is 206-963-1308. Here are the procedures we use for furling and unfurling:

Unfurling:

- Un-cleat the boom vang, furling line, outhaul and main sheet.
- Usually we wrap the main sheet 2 turns on the port winch but do not cleat it. The idea being to not have it tight but also to keep it from running out freely.
- Remember to fall off so there is wind in the sail.
- Take a couple wraps on the starboard winch with the outhaul line. Pulling the sail out of the mast by hand is recommended. **If you do use the winch DO NOT force the sail out.**

At the first sign that the sail is not coming out freely, stop and loosen the outhaul. Then, go forward to the mast, grab the foot of the sail and give it a yank out of the mast (aft). This method works 100% of the time for us with very little fanfare.

- e. Once the sail is fully deployed putting the outhaul on the winch is reasonable and necessary.
- f. Tighten boom vang and sheet in as needed. It is okay to use the electric winch on the sheet.

Furling:

- a. Travel over or loosen the sheet (don't need it flapping unless in stronger winds as it is best to keep a little wind in the main as it helps tension it for a tight wrap on the furling drum.
- b. Un-bleat the outhaul and take all but one wrap off the winch. Use this to keep tension on the sail so it wraps tightly around the furler.
- c. Take a couple wraps on the port winch with the furling line. Pull by hand. You may need to use a winch handle, lightly, just to get it started. **Do not use the electric motor!**
- d. The entire sail does not go into the mast, please leave the last foot or so exposed (it is covered with UV protection and designed to be out).
- e. Tighten boom vang and sheet to keep boom from swinging too much but not so tight that the boom comes down to the dodger.

IMPORTANT: Be sure to keep a bit of tension on the outhaul in order to get a nice tight wrap of the mainsail inside the mast. A little wind (it does not take much) in the sail will accomplish the same thing. Remember, if you furl the main without any wind pressure on it (if you're becalmed), tension on the outhaul line is the ONLY force that will get you a nice tight wrap inside the mast. And a loosely furled main inside the mast could mean a tough next deployment or, in the worse case, a jammed main. Also, be aware that too much halyard tension will cause the furler to bind. So, please do not add halyard tension and if the main is repeatedly arguing with you try loosening the halyard – it does not take much, just an inch makes a big difference.

Electric Winch – The electric winch should be used **only for sheeting in the main sail** or running a person up the mast on the boson's chair. **IT SHOULD NOT BE USED TO ADJUST FURLING OR OTHER LINES.** It is too powerful and can easily break sails, lines or fittings, all of which will break before the winch does. The winch circuit breaker is behind the companionway steps in the port quarter berth.

Headsail - Our genoa is a 135 and is roller furling and takes a good sail shape at the full out position. Its size helps in lighter air but during periods of heavier winds you may furl the headsail as desired. **Please keep moderate tension on the roller furling line when deploying the headsail to prevent a rat's nest on the drum and similar tension on the sheets when furling to prevent 'candy striping' of the furled sail.**



20. Sailing Characteristics: Illuminé is a very solid vessel with surprisingly well balance handling characteristics. This being said, as with most modern cruising boats, Illuminé has a beamy stern and a shoal draft keel. This causes her have excessive weather helm if she heels over too far. **Therefore, it is necessary to trim for less heel when the wind hits 15-20 knots.** Here are the basics: Move the jib cars back and sheet in to flatten the lower part of the jib, this will also twist off the top. On the main, tighten the outhaul to flatten the sail and loosen the sheet some to twist off the top. Then use the traveler to trim for the amount of heel you want. These steps seem to work well up to about 20 knots, beyond that reefing the main becomes necessary. We have sailed in 30 knot winds with just a 90% jib and no main; she handled it beautifully, the steering was balanced and we were doing 8 knots to windward. She does not like to sail on the main alone.

21. Showers: Experienced cruisers know the sailor's shower: get wet, turn it off, soap up, rinse off. **CAUTION: THE ENGINE CAN HEAT THE WATER TO SCALDING TEMPERATURES!** Each shower has a sump pump with a switch located in the shower area. These pumps also have breakers on the main panel.

There is also a shower fixture back at the swim platform. This is useful for washing off shoes after returning from the beach. This fixture is located on the transom to port of the aft storage locker.

- 22. Stove:** The gimballed propane stove has two burners and an oven. Propane is heavier than air and requires caution. For your safety, please follow these procedures:
- Make sure all stove controls are in the “off” position. As with the BBQ, having the stove valves open when the solenoid is opened will cause the safety system to kick in. This will severely limit the flow to the stove. If this happens close all the valves, including the one on top of the tank. Then open the tank valve, then the solenoid and finally open the valves at the stove.
 - Turn on propane solenoid valve switch on the electrical panel.
 - Light a match or the butane lighter and push in the stove knob and turn to high. The burners will take a while to light on the first use. When the flame lights, hold in the knob for about 3 seconds to allow the thermocouple to sense the flame.
 - When you are finished with the stove, immediately turn the solenoid switch at the panel off.

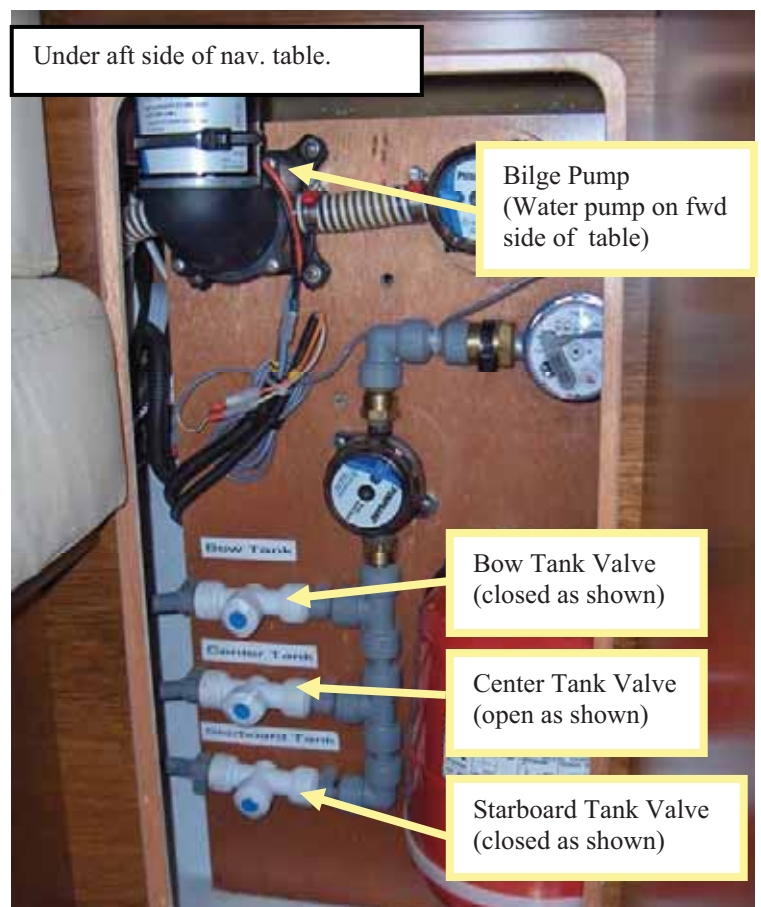
To light the oven you will need to push in and turn the “oven” control knob on the front of the stove. Then put your butane lighter through one of the two holes in the bottom metal “floor” of the oven. You should hear the burner ignite (and see through the hole). If you have trouble lighting it, remove the metal floor/bottom of the oven, exposing the U-shape oven burner. You'll easily be able to light it when exposed. Replace the metal floor/bottom after it is lit.

Please note that both propane valves are located in the propane locker in the aft starboard side of the cockpit, which is vented and isolated from the rest of the boat. That way, any leaks will be vented away from the boat. San Juan Sailing's staff fills the propane tank every 3 weeks. One tank normally lasts 6 weeks or more and Illuminé has two tanks (one connected and a spare).

23. Water:

Water pressure – The water pressure switch is located on the electrical panel. Please switch this off when motoring or sailing. You could burn out the water pump should one of the tanks run dry (and you would not hear the pump running over the sounds of motoring or sailing). There is a pressure accumulator so you will be able to get some water even with the pump turned off.

Water tanks – Illuminé has three water tanks, a 40 gal. tank located under the V-berth, a 40 gal. tank under the settee (starboard side) and a 60 gal. tank located under the salon (middle section). Selection valves are behind the panel under the nav table. Only have one valve open at a time, otherwise water flows from tank to tank and the meter readings become useless.



There is a digital readout on the main panel which indicates the liters of water used (at least in theory, it appears to read more like .6 liters). This meter should be reset to zero when you change from one tank to another or refill all the tanks at the dock. Here are the approximate sizes and counts per tank: **Bow Tank – 300 counts (40 gal.), Center Tank – 450 counts (60 gal.), Starboard Tank – 300 counts (40 gal.)**

Water Heater – The water is heated automatically when the engine runs under load (it takes about 45 minutes), running it at idle in the morning doesn't work, sorry. **CAUTION: THE ENGINE CAN HEAT THE WATER TO SCALDING TEMPERATURES!** The hot water is stored in the insulated 10-gallon tank located under the dinette seat just in front of the galley. It can also be heated electrically when shore power is available. The switch is located on the 110 V panel.

The deck fitting for the bow tank is on the port side forward of mid-ship. The fitting for the starboard and center tanks are on the starboard side about mid-ship. The center tank fills from the inboard fitting and the starboard tank fill from the outboard fitting.

Salt Water Wash Down Pump – We have a salt water pump installed with a fitting and hose in the forward anchor locker. The hose is long enough to reach the stern so that you can use seawater to wash down the swim step after returning from shore. The switch for the pump is on the main panel and is marked as such. Please turn off the pump when not in use, thanks.

24. What's Unique about Illuminé: In many ways she is similar to other charter boats. Therefore, you are likely to find most of her systems will be familiar and easy to operate. There are a few things about her that are not 'typical'. These are the things that may require special attention or where it may be best to deviate from customary operating procedures. And, some are listed here because we believe they will help you plan your charter.

Fuel Gauge – The fuel gauge does not work reliably, therefore it is best to note the engine hours when you get onboard (or when you fill the tank) and refill when you have run 25-30 hrs. At about 1.5 gal. per hour this will consume 40-45 gals. of the 53 available in the main tank.

Electrical System – Illuminé has 5 batteries in her house bank and a large solar panel to keep them charged. You should be able to sit at anchor for several days (assuming some sun is shining) and not have battery issues.

Galley – We try to keep a good supply of spices, condiments (olive oil, vinegar, A-1 Sauce, etc.) and consumables, (saran wrap, baggies, etc.) on board. All we ask is when you use something up please replenish the supply, thanks. Also, please put the spices and condiments back under the sole when you return to Bellingham as the cleaning crews tend to throw out items left in the galley.

Maxprop – There are two main advantages to Illuminé's feathering prop; the first is speed. In light winds she will sail up to half a knot faster with the prop feathered. The second advantage shows up when you are backing up under power. Fixed propellers are not very efficient in reverse so they require high engine RPM;s to get any real power. Because the Maxprop's blades rotate when in reverse they are just as efficient in reverse as they are in forward. **When you put Illuminé in reverse you will notice she responds faster than a boat with a fixed prop.**

Bilge Pump – The electric bilge pump has a timed relay wired to the float switch which will continue running the pump for about 30 sec. after the float has dropped. Also, this relay is wired straight to the battery so the breaker for the bilge pump is normally in the off position. **Turning on the breaker will cause the pump to run continuously.** This time delay was added to allow enough time for the pump to empty the line so water would not drain back into the bilge and re-activate the switch.

We hope this information helps. Have a great time.
Mike & Lauri Huston