

## **Notes from the Owner of *Ad Libitum***

Welcome aboard *Ad Libitum*! Loosely translated from Latin, the name means “for pleasure.” She has been equipped and maintained to measure up to that standard. Here are some key points of which we would like you to especially take note:

**INVENTORY - YOU WILL FIND A DETAILED INVENTORY LISTING THE PROPER LOCATION OF ALL MOVABLE SUPPLIES AND EQUIPMENT. IT IS INTENDED TO BE USED IN CONJUNCTION WITH THESE NOTES**

### **SHORE POWER**

Prior to disconnecting the shore power cord, flip the breaker switch off. The switch is located on the panel over the nav station. The shore power cord stores most conveniently in the port lazarette.

### **BATTERY USAGE**

*Ad Libitum* is equipped with an automatic dual circuit battery balancing system. It is recommended that you leave the switch in the “ON” position at all times. However, in an emergency in order to start it should be set to “COMBINE BATERIES.”

### **ENGINE STARTING**

Prior to starting the engine each day, open the engine compartment, check the oil dipstick and condition of belts. Add oil only if the level is substantially below the full level and then, only in small increments to avoid overfilling. The spare oil is located in the port lazarette.

Turn the ignition key in order to warm the glow plugs for a few seconds. Then start the engine in neutral and allow to warm. Check that the exhaust is working properly by observing exhaust just below water line on starboard aft.

### **UNDER POWER**

Because *Ad Libitum* is fitted with an automatic feathering propeller you will suffer almost no prop port walk when backing *if the prop is properly repositioned for reverse*. This is done by giving it a quick RPM burst shortly after shifting in order to change the

blades on the prop. Similarly, the same needs to be done when shifting into forward from reverse.

Make sure that the engine RPMs are 1000 or less when shifting. However, if the RPMs are 800-900 the engine may vibrate excessively. In that instance increase the RPMs slightly to eliminate the excessive vibration.

Do not exceed 2500 RPMs when motoring! That is hard on the engine, reduces mileage and does not make any meaningful difference in speed.

### **STOWING FENDERS**

The fenders are stowed in the fender racks aft outboard.

### **UNFURLING/FURLING THE MAIN**

The mast has an in-mast furling system. It is recommended that the head sale be deployed first while underway. *If unfamiliar with such a system*, please refer to the SJS recommended instructions at Section 18 below.

### **KILLING ENGINE**

Allow the engine to idle for five minutes prior to killing. **Always pull the red kill lever to stop the engine.** Only after the engine is completely stopped can you turn off the ignition key. Also, make sure the red kill lever is returned to the down position. The engine will not start until it is.

### **FURLING THE JIB**

Blanket the jib by sailing 160 to 170 degrees and then pull the furling line by hand wrapping the jib sheets around the sail a couple of times and then secure.

## **TABLE OF CONTENTS:**

1. Anchors
2. Appliances
3. Barbecue
4. Batteries
5. Berths
6. Bilge pumps
7. Dinghy
8. Dodger
9. Electronics
10. Emergency Tiller
11. Engine
12. Fuel tank
13. Head and holding tank
14. Heater
15. Inverter
16. Outboard
17. Refrigerator
18. Sails and rigging
19. Shower
20. Stove
21. Water (hot and cold pressure)

1. Anchors: *Ad Libitum* is equipped with two anchors both stored in the anchor locker. The primary anchor is a 35 pound Lewmar Delta with 200 feet of chain and 175 feet of rode, which we find holds well in a variety of conditions. The secondary is a Fortress that is fitted with 20 feet chain and 100 feet of rope. Smaller and with less holding power than the high tensile Delta, but perfect for a lunch stop or for a stern anchor. Chain length is 200 feet and marked by one white mark at 40, two white marks at 80 and three white marks at 120. **The scope to use in the islands is 3 or 4 to 1**, definitely not 7 to 1. Most coves are 15'-30' deep at high tide, so expect to pay out about 50'-100' of rode. The draft is a little over 6 feet. After you have paid out the suitable amount of rode, 30 seconds of idle reverse both sets the anchor and will test its holding power.

The windlass breaker is located on the side of the port settee. **Operate the windlass only with the engine running.** Use the windlass drum to haul in the rope and then stop the windlass when the chain reaches the locker and place the anchor chain in the chain gypsy to complete the retrieval. As you pull the chain into the locker stop the windlass each few seconds to make sure that it falls into the locker and does not build up in pile that would interfere with the windlass. To prevent hull damage it is preferable to pull the anchor up into the block by hand for the last two or three feet. The anchor chain on the Fortress does not fit the chain gypsy so that that must be retrieved by hand.

There is a 600 foot floating stern tie line located in the starboard far aft lazarette locker. It may be best accessed by removing the upper shelves.

2. Appliances: In order to prevent excessive battery drainage, the microwave oven operates only on shore power. When not in use it makes an excellent storage unit for lighter items such as potato chips, bread, buns, etc.

The TV/DVD player is powered by the inverter located on the port side of the forward cabin. The breaker labeled "accessory" is required. The AM/FM radio and CD player has a plug receptacle to allow you to use the boat's speakers for your iPod. In order to use it, be sure the "TV-Stereo" breaker is turned on.

3. Barbecue: The stainless steel propane gas grill sits on the port side stern rail. For easier use, a gas line can be found in the port aft locker; just attach it when you're ready to use the BBQ. Also, as a courtesy to the next guest, please use the wire brush located in the port lazarette to clean it after use. Thank you!

4. Batteries: *Ad Libitum* is equipped with two 240 amp hour house batteries (480 amp hours total) and a Blue Sea battery control system that prevents accidental discharge and protects the electronics from surges and sags. The battery control switch is located on the side of the port settee. Leave the battery switch in the ON position. In the unlikely event that the engine battery will not turn over the engine sufficiently, turn the switch to the COMBINE BATTERIES position.

There is a dedicated starting battery located in the battery compartment under the port settee. Its sole purpose is to start the engine and to power the windlass. Accordingly, **it is strongly recommended that the engine be running when the windlass is being operated.**

5. Berths: *Ad Libitum* sleeps four very comfortably; two in the forward cabin on a queen size inner spring mattress and two in the aft berth. The dinette converts to a short bed by exchanging the post for a short post that is located in the port settee. Then move the starboard settee cushion to the top of the table.

6. Bilge pumps: There are two bilge pumps. The emergency bilge pump is located on the port side of the cockpit, in the stern exit opening. The handle is kept in the port cockpit lazarette for quick access in event of emergency. The electric bilge pump does have an automatic float switch. The switch on the electrical panel remains set on "Auto." The pump will only engage only when enough water comes in to cover the float switch. Please monitor any bilge water coming in daily. In the event of a float switch failure, the electric bilge pump can be used manually changing the switch at the electrical panel.

7. Dinghy: The AquaPro 901 (9 ft. 3 in.) dinghy is stable, rows well, and **tows with the least drag if brought close to the boat--about a foot off the stern**. This lifts the dinghy bow, reduces drag, and guarantees that you won't accidentally wrap the painter around the propeller when you back up! **We tie the painter off twice**. We tie it **first on the cleat and the bitter end we tie onto the stern rail**. Others have lost the dinghy when their cleat tie slipped loose.

We would very much appreciate your special care when beaching the dinghy. The beaches of the San Juan Islands are not all gentle sandy beaches. Most often they are rocky, 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; gently lift and pull the bow as close to shore as possible without excessive scraping, then offload everyone over the bow. Now 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 and dry and dinghyless!

8. Dodger: *Ad Libitum* is equipped with a hard dodger. **The most vulnerable part of the dodger is the plastic "glass"**. **Please avoid touching it as much as possible**. **To clean, use only a sopping wet sponge, wiping very lightly** with lots of water. By the way, the glass' worst villain appears after sailing smartly into a challenging breeze. The salt spray which collects on the glass dries in the wind, leaving behind tiny salt deposits that obscure your vision. Please don't let an energetic crewmember wipe off those salt crystals. They act like sandpaper on the glass! Instead, let them "flood" off the crystals with a pan of fresh water from the galley.

9. Electronics:

- Cellular Telephones. Our boat is equipped with an antenna atop the mast and a Dual-Bank Amplifier that significantly enhances the cellular signal throughout the boat.
- Helm Station Instruments – The “Electronics” and “Auto-pilot” breakers **each must be in the on position** to properly use the helm station instruments.

- Chartplotter. Tracks the position of the boat via a GPS receiver. The power button is located on the lower left of the unit. It starts the main chart screen. Zoom in or zoom out by pushing the In or Out buttons. To view the Radar press the page button and then press the desired screen view on the bottom row of buttons. Or you may page through until you find the desired screen configuration.
- Autohelm. The new Raymarine ST70 Smart Pilot X-10 below-deck autohelm steers the boat really well. It is engaged by depressing the “Auto” button on the far starboard instrument. It is deactivated by depressing the red “Standby” button. Auto tack is engaged by pressing the “Menu” button, +1 (starboard) or -1 (port), then “Enter.” The autohelm will maintain constant heading to the wind by pressing “Menu”, highlight the wind vane mode, then press “Enter.” The autohelm responds to waypoints that are set at the Chartplotter. For more information refer to the to the user manual.
- Radar. The default is to have the unit on standby. To activate press the button on lower left just below the TX label on the screen.
- Depthsounder. The digital depthsounder will not give accurate readings beyond 200'. 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, you will receive many false readings caused by currents, changes in water temperature, fish, and underwater seaweed. **Use the depthsounder only as an aid to navigation in shallow water. The key to avoiding rocks is not the depthsounder--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 fish passes underneath.
- Knotmeter: If the digital knotmeter shows a reading of "0.00" while underway, the impeller is most likely clogged with a piece of eelgrass. Sometimes it will float off overnight. You can also try removing it by traveling in reverse. The impeller is located just ahead of the mast in the

main salon. You may wish to remove the impeller to clear it if you are experienced in such things.

- VHF radio: 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, or 79. Channels 28 and 85 are Bellingham Marine, for placing long distance telephone calls (much more expensive than cellular). The marinas monitor other channels. Consult Waggoner to determine the proper channel. We listen to weather channels 1, 2, 3, or 8 (whichever gives the best reception) before we sail 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". You will hear "Strait of Juan de Fuca" (lies south of the San Juans), "Georgia Strait" (lies north), and "Rosario Strait" (runs through the eastern part of the San Juans).

San Juan Sailing monitors channel 80 during office hours (closed Sundays). You can reach the mechanic, Craig Cooper at 360-201-0178 (cellular), or owner Roger Van Dyken at 360-224-4300 (cellular) or 360-354-5770 (home). **The San Juan Sailing office is 1-800-677-7245.**

10. Emergency Tiller. Located in the port lazarette locker in a red cloth container.

11. Engine. Starting--

1. Check the oil level. The dipstick is easily accessed on the starboard side of the engine. It is a simple procedure to remove the entire engine cover for easier access. Lift up companionway stairs and lift and pull engine cover into salon. There is a wide gap on the dipstick between the full line and the fill line. Above all, do not overfill. **Use the onboard spare oil to add no more than a cup at a time.** Then check the level again. This is not a car engine where you can add a quart at a time. Overfilling is the worst thing you can do to a diesel. The excess oil will get out somehow, sometimes by blowing the head gasket. So if the oil is down a bit, please add only a cup at a time.

Incidentally, the first time you pull the dipstick, it often has no oil showing.

After your heart skips a beat, reinsert the dipstick and the correct level will show. It will be black, of course, as is all oil in diesels after a couple minutes of running. We change the oil at 100-hour intervals. With the cover removed, this is an excellent time to check the coolant levels.

2. Make sure the gearshift is in neutral.
  3. Push the accelerator handle forward just a tiny amount.
  4. Make sure fuel cut off handle is fully depressed
  5. Turn key to the right. The buzzer should sound. This is the warning buzzer you would hear if the engine overheats or if there is loss of oil pressure.
  6. Turn on the blower switch just to the right of the key as an added safety precaution.
  7. If the engine is cold, hold the key over for a few seconds to activate the glow plugs.
  8. Press the starter button on the left side of the steering pedestal. This engine usually fires right up in just a couple seconds. If it doesn't fire right away, give a little more throttle.
  9. After she starts, gradually ease the throttle back to just above idle for warmup; then check for water gurgling out the exhaust
  10. Please allow 5 minutes of warm up before placing a load on the engine.
- Pushing a cold engine is very hard on diesels.

**If Engine Won't Start: Double check that the fuel cutoff lever is all the way down.**

Operation: We have found this little 26 Universal diesel engine to be very reliable. We have insulated the engine compartment to help muffle engine noise. **Cruising speed is 6 knots at 2500 RPM. However cruising at 5 knots is considerably quieter.** Please do not exceed 2600 RPM because it's hard on the diesel to push past cruising hull speed (at very little increase in speed).

Engine overheat: If the buzzer sounds while the engine is running, immediately check the oil pressure and temperature gauges. If oil pressure is flat, shut down the engine, check the oil level, and contact San Juan Sailing. Most likely a buzzer means the engine has overheated. Check for water gurgling out the exhaust. If gurgling, check the coolant level. If there is no water gurgling, the water strainer is likely plugged with eelgrass. Eelgrass looks like an exploded view of lawn clippings. They are about 3 feet long, brownish green, flat and about 1/2 inch wide. Look for them in two places--floating masses undulating on the water, and in "tide lines", those soapy lines in the water that contain other intimidating debris as well. Best solution here is prevention--keep an eye peeled for eelgrass masses, tidelines, and semi-floating logs. If eelgrass gets sucked into the engine cooling water intake, it jams the raw water strainer located mid-ship in the aft cabin under the double berth. To clear it, close the seacock just aft of the strainer. Then unscrew the small clear container, and extract the stainless steel filter element. Remove the eelgrass. Open the seacock to assure that it is not clogged. Close it again and carefully reinsert the stainless steel filter element. Note the two nubs on the bottom which must seat into two receptacles in the base of the strainer. (Otherwise the lid won't seal). **Replace the lid and reopen the seacock.** If the engine overheats again upon restarting, check that the seacock is open and check the lid seal. If it draws air, it won't draw water.

Engine shutdown: **Please never turn off the key while the engine is running!** First make sure the engine is at idle for **five minutes** and the gearshift in neutral. Then pull the fuel cut off handle on the starboard side of the binnacle. When the engine dies, turn off the key.

There is an emergency start button on the bulkhead in the engine compartment that bypasses the ignition.

## 12. Fuel Tank.

**It is recommended that you monitor the fuel tank so that the fuel gauge never registers below 1/3.** When below that point the fuel pickup could possibly suck air when heeling far to port or when severely rocking in rough seas. A Catalina suggested remedy has been installed to ameliorate the problem, but following this procedure will help ensure that you do not encounter such a situation.

The tank sits aft of the berth in the stern on the port side. The engine burns approximately 1/2 a gallon of diesel per hour at cruising speed. The fuel gauge is on the binnacle. Please monitor it. Running out of diesel involves a bleeding process that you would really rather not do. Please be very careful when fueling. **Never allow maximum flow from the filler hose.** If you do, the fill tube will surge and diesel will spill onto the side and decks, from the vents on the cabin sides, and put you into the ever-caring hands of the EPA. Fill slowly and carefully through the starboard aft deck fitting. When the pipe begins to gurgle like its full, you are probably full. Also be very careful of drips when removing the hose. Diesel and shoe bottoms are a very slippery and dangerous combination. After wiping, please use soapy water to scrub down any drips.

## 13. Head and holding tank:

First, be sure the breaker for the electric toilet is in the on position. The breaker is located near the holding tank light on the breaker cabinet. If there is insufficient water entering the toilet when flushing, check the sea water strainer that is located under the aft berth on the port side. There are three flush buttons: "Normal" – flushes solids. "Low" – flushes liquids only. "Empty" - for use when underway to prevent water from splashing out.

The head has a 20-gallon holding tank located port side aft. The "Y" valve is located just behind the toilet. If you use the macerator, you must be sure the seacock is open. The macerator toggle is located on the forward side of the area above the navigation station. The seacock is located under the aft mattress near the starboard side and is labeled. The

seacock must be open in order to discharge the holding tank. **Ensure that the seacock remains open.** San Juan Sailing staff will discuss holding tanks and pumpouts on your arrival. Our one plea is this--if you use the holding tank, please monitor it carefully! There is a holding tank full light on the breaker panel. Exploding or leaking sewage is most unpleasant! The tank should be pumped out, filled with fresh water through the deck fitting to rinse, then pumped out again. Thank you!

14. Heater: The control for the diesel furnace is located on the front side of the breaker panel cabinet. The cabin temperature can be regulated by the thermostat.

15. Inverter. There is an inverter located in the forward cabin to power the TV.

16. Outboard. The outboard is a 4-stroke Honda that is quiet, light and reliable.

DO NOT add any oil to the gasoline mixture – it uses just straight gasoline. The fill cap is located at the top of the engine. As a courtesy we have an additional red spare gasoline can tied into your dinghy.

*WARNING – Gasoline fumes are explosive and a very dangerous fire hazard if stored on a boat. Keep the spare gasoline container in the dinghy and tied to the transom so it stays upright. NEVER store the spare gasoline container in a locker, lazarette, or any other storage area on your vessel.*

*The outboard is so light that it is easy to transfer from the stern rail outboard mount to the dinghy transom (and vice versa). PLEASE do not cruise with the outboard on the dinghy. It will no longer work after saltwater gets into or even near the intake of the carburetor. If this happens, you will have to condition your rowing muscles until you get back to Bellingham). We also recommend taking the outboard off the dinghy at night.*

#### To Start.

1. Push the fuel valve lever (starboard aft corner of the outboard) aft to open the fuel valve.
2. Pull out the choke switch (starboard forward corner of the outboard).
3. Open the air vent on the top of the fuel cap (top of outboard) by turning counter-clockwise about 3 full turns.
4. 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).
5. Turn the handle throttle ¼ turn counter-clockwise.
6. Pull the rip cord until it starts. (You shouldn't have to pull it more than 5 times.)

#### While Running.

1. Push the choke back in shortly after the engine starts (after about 10 seconds).
2. 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.

1. 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.
2. 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 at stays in place.

To put the outboard shaft back in the water, release the stainless steel lever on the starboard side of the shaft.

#### When Not in Use.

1. Put the outboard back on the outboard mount on the stern rail and tighten both braces.
2. Push the fuel valve lever forward to close (starboard aft corner of the outboard).
3. Close the air vent on top of the fuel cap (top of outboard) by turning it clockwise.
4. Secure the outboard further by tying the safety lanyard with to the stern rail.

#### **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 a spare box in case the engine won't start or is running rough. (A new spark plug solves myriad outboard problems. If you use the spare spark plug, notify your check-in skipper upon your return so a new one can be placed aboard for future guests.) 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) and put the propeller and new pin back into place.

#### 17. Refrigerator:

The refrigerator must be turned on at the electrical panel. There is a switch for operation under DC power. Then find the thermostat on the inside of the refrigerator aft near the small freezer. Set at #4. You can adjust from here if you so desire. This is a well-insulated 6 cubic feet capacity refrigerator. **Be aware that the refrigerator does drain a fair amount of battery power.** If water accumulates at the bottom of the refrigerator it may be drained by running the shower sump pump after setting the through hull valve under the galley sink to the proper position.

## 18 Sails and rigging:

The main has an in-mast furling system.

With an in-mast rig, in normal conditions, it's recommended that the **head** sail be deployed first (while underway). The mast bows slightly aft at the top. By deploying the head sail first, the pressure of the wind in that sail tends to straighten up the mast. This makes it easier for the main to deploy from within a plumb mast. So provided that the wind is less than 20 knots, steer to a course of approx. 60 degrees to the wind (close reach). Deploy the head sail first. Now you may throttle down and place the engine in neutral, sailing on the head sail alone. Shut down the engine. Now you're ready to deploy the main.

*If you're in high wind (20+ knots) conditions, you may prefer to deploy the mainsail head-to-wind instead. That's okay, but in this situation, deploy the main first. (Since you're in high winds, only partially deploy the main so it's in effect "reefed".) Once deployed, fall off and begin sailing...just like you would on a vessel with a conventional main. Then partially deploy the head sail. Be conservative with the amount of sail you deploy in high winds. If you've been too conservative, you can easily deploy more sail area while sailing.*

To deploy the main:

1. The mainsail does not cooperate when the boom is pulled down tight, so give it a little "play". So loosen the boom vang by pulling out about a foot of line (then close the rope clutch) and loosen the main sheet by pulling out about 3 feet of line (then close the rope clutch).
2. The "outhaul" line is what pulls out the main. Pull the outhaul by hand or careful use of the winch. Be careful not to force the outhaul or you will do damage to the rigging and the sail. If it does not respond to moderate force check for the hang-up. (Most rope clutches provide one-way stops, so you don't need to open it when winching in.)
3. For control, keep slight tension on the "main furler" line while winching in on the outhaul until the main is partially or full deployed (depending on the wind and your preference). The wind pressure on the main will actually help the main to deploy.

Reefing the mainsail:

*You have infinite reef points with an in-mast furling main. You can deploy as little or as much sail area as you determine is appropriate for wind conditions you encounter. And you can reef an in-mast main while sailing and from the safety of the cockpit!*

Simply wrap the "main furler" line on a winch. Then grasp and control the "outhaul" line by maintaining adequate tension. When you're ready, open the outhaul rope clutch. Crank in the main furling line, while you slowly

pay out the opposing outhaul line, until you've shortened the mainsail to a position appropriate for the current wind conditions. Close the rope clutch on the outhaul. Success!

*After you've furled the main, you are ready to shorten the head sail. (If you shorten the head sail first, you'll increase "weather helm" and likely round up. So always reef the main first.)*

Furling in the main:

*When you're ready to bring in the sails, start by furling in the main. When the main is tightly wrapped inside the mast, you're ready to furl in the head sail.*

1. While still sailing, steer the vessel into a close reach (about 60 degrees off the wind).
2. Winch in the boom vang to pull the boom down. (This will help the mainsail enter the mast without wrinkles that may hinder a future deployment.)
3. Wrap the "main furler" line on a winch (again do not apply excessive force to the winch or damage may result).
4. Grasp and control the "outhaul" line by maintaining adequate tension, and open the outhaul rope clutch.
5. Crank in the main furling line, while you slowly pay out the opposing outhaul line, until the main is wrapped fully inside the mast.

*IMPORTANT: Be sure to keep plenty of tension on the outhaul in order to get a nice tight wrap of the mainsail inside the mast. The wind will help you get a nice tight wrap. Remember, if you furl the main without any wind pressure on it (if you're head-to-wind in high winds or if you simply 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.*

Now that you're just sailing on a close reach on the head sail only, it's time to start the engine and shift into forward in order to maintain your course of 60 degree off the wind. While holding course, furl in the head sail. And motor in to your anchorage or marina!

Headsail –

The 135% jib is furled on Pro Furl roller furling. It has good sail shape at any position down to approximately 100%. Please note that slight tension on the roller furling line when deploying the headsail, and on the sheets when furling, prevents problems from either a rat's nest on the drum or "candy striping" of the furled sail. After the jib has been unfurled we usually cleat the furling line off with a little tension.

#### 19. Shower:

Water is heated automatically by the engine running under load (after about a half hour) but running it at idle in the morning won't do it. The hot water is stored in the metal tank located under the galley sink. It can also be heated electrically when on shore power. Experienced cruisers know the sailor's shower: get wet, turn it off. Soap up. Rinse off. If we overflow the shower basin we've used too much water! The shower sump pump switch is located below the head sink. The thru hull located under the galley sink must be opened to operate the sump. The water pressure switch on the electrical panel must be on in order for the pump to run. **CAUTION: The engine can heat the water to scalding temperatures!**

#### 20. Stove:

The gimbaled propane stove has two burners and an oven. Propane is heavier than air and requires caution. For your safety, please follow these procedures for lighting the stove top burners:

1. Open the hand valve on the propane tank all the way open and very slightly snug.
2. Make sure all stove controls are in the "off" position. Turn on propane at the electrical panel.
3. Push on the stove knob and turn to high. Then simultaneously spark the igniter by pushing the red button. The burner should light immediately.
4. When finished with the stove, immediately turn the electric solenoid switch off, for your safety.

The oven does not have an igniter. Find the lighter or matches and have a flame near the burner toward to aft end when you turn the gas on in the oven.

Please note that the propane valve for the stove is located in the propane locker aft of the cockpit on the starboard side. It is vented and isolated from the rest of the boat. Any leaks there will move down, out, and away from the boat.

San Juan Sailing staff fills the propane tanks each 3 weeks. One tank normally lasts 6 weeks or more. The tank is aluminum and feels lighter than you may be used to. If in the unlikely event that you run out of propane you may use the barbeque tank located in the port locker as a spare.

#### 21. 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 sound of motoring or sailing). Water tanks: We have two tanks; 34 gallon tank located under the mattress in the forward cabin and a 20 gallon hot water tank located aft to the starboard. State parks have no pressurized water to refill tanks, but all points of civilization do. If your crew does not let the water run continuously while they brush their teeth or shave, you shouldn't have a problem.