



RAVEN

Owner's Notes

Welcome aboard RAVEN!

RAVEN is a 2003 Catalina 42 Mk II Cruiser-Racer. Please respect our need to maintain RAVEN as a totally smoke free vessel. We are immensely pleased with this fine vessel and look forward to sharing her with you, our guests. We've chartered 12 boats with 10 companies. We found San Juan Sailing "heads above" all other companies and the Catalina Mark II the most enjoyable boat we've sailed. We hope that you will appreciate our gear and equipment choices and that you will enjoy sailing her as much as we do. You will find RAVEN is very well balanced and sails beautifully. She keeps her speed in light air and is very stable in heavy weather.

We've prepared these notes to bring you up to speed quickly and to make your vacation cruise as trouble-free and enjoyable as possible.

Happy Sailing!

Dean and Val, Owners

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PRE-DEPARTURE CHECKLIST:

Note: The engine hour meter is on the pedestal under the helm.

The following systems/ switches/ valves should be checked prior to departure:

- A.** Shore Power: AC main breaker OFF @ Nav station, disconnect shore power cord and cord stowed in aft port cockpit locker.
- B.** Engine sea strainer thru-hull OPEN. The cooling raw water strainer is located in aft port stateroom under the bunk.
- C.** Check coolant level in expansion tank located on the port side of engine room bulkhead.
- D.** Battery selector switch (port aft stateroom) SET ON "2"
- E.** Necessary instruments turned on at navigation station (VHF, knot meter, depth sounder, apparent wind indicator, GPS, radar, etc)
- F.** Engine oil and transmission oil level checked by double dipping for accurate reading. Proper engine oil is DELO 15-40. Engine oil level is checked from the top

by tilting the companion way steps forward. Engine Room light switch is beside the companionway stairs. **NOTE: Make sure the latches are secured on the companionway steps after closing as the steps will fold forward if someone steps on them without the latches engaged.** Extra oil is stored in the engine room at front of the engine. **DO NOT ADD OIL UNLESS IT IS BELOW THE ADD MARK.** Transmission fluid level is checked from the large access door on the starboard side of the engine, accessed from the starboard stateroom. Proper transmission oil is DELO SAE 30.

1. **Anchors.** Our boat is equipped with three anchors, two forward and one attached to the stern starboard rail. A spare rode is located in the port cockpit locker. The primary bow anchor is a 44 # Claw with 200 feet of 5/16" HT chain marked in orange at 20-foot intervals.

The electric **anchor windlass** receives power from the dedicated engine start battery (Bank #1). Always ensure that the engine is running when operating the windless! Otherwise, the windlass will drain the start battery. The breaker (i.e., the "on" and "off" switch) for the windlass circuit is on the outside of the settee directly across from the galley sink. The up-down foot operated controller for the windlass is inside the chain locker. Operating: Release anchor (down) by pushing the foot button closest to the windlass. Then attach the anchor snubber and secure it to the cleat inside the chain locker before easing out a bit more chain allowing the snubber to bear the anchor weight. When retrieving the anchor, bring in the chain until the snubber is loose and then remove the snubber. *NEVER* use the windlass to pull the boat up to where the anchor is set. Instead, head the boat under power toward the anchor while using the windlass to take up the slack chain. To retrieve slack chain and finally the anchor, use the foot button furthest from the winch, but please do not pull the anchor up onto the rollers using the power of the windlass.

Once the anchor is out of the water, please retrieve it by hand and guide the anchor's shaft onto the bow rollers by hand with the claw facing down and stow the anchor securely in the mount provided and take up any slack in the chain. **NOTE: RAVEN's anchor windlass is VERY powerful and will want to rip itself from its attachment point on the bulkhead if straining at a jammed anchor shaft.**

If the anchor is dirty coming out of the water just dunk the anchor into the water a few times (**be sure that the windlass has completely stopped going in one direction before you press the switch for the other direction!**) to keep mud from drying on the anchor and bow. A bucket in the Starboard cockpit locker can be used for "sloshing" sea water on the anchor and chain for clean-up. The anchor locker is self draining.

When anchoring is complete remember to secure the anchor by placing anchor snubber hook on the chain and then cleating the snubber off to the cleat in the anchor locker. The chain over the windlass cat wheel should not be the only thing keeping the anchor from returning to the sea bottom! After snubbing the anchor, immediately **DISENGAGE the anchor windlass circuit switch in the galley by pulling it OUT** to prevent draining the engine start battery.

NOTE! If the anchor will not break free easily with the windlass, use the boat engine to break the anchor free from the bottom. Secure and snub the anchor rode with 1:1 scope and motor slowly forward. Once the anchor is free, release the anchor snubber and continue bringing up the anchor with the windlass.

The backup primary anchor is a 44 # Fortress located on the aft starboard cockpit rail.

The secondary / stern anchor is a Danforth located in the bow anchor locker with 25' of chain. The rode (8' of chain and 200' of nylon rope) which is located in the aft port locker can be used with either the secondary or backup anchors.

The scope to use in the islands is 3 or 4-to-1. Most coves are 15'-30' deep, so expect to pay out about 60'-100' of rode. After you have paid out the suitable amount of rode, 30 seconds of reverse idle sets the anchor and tests its holding power. If you wish to sleep even better, put the throttle at half speed in reverse to prove to yourself that the anchor is well set!

NOTE: RAVEN has a 6'8" fin keel and draws 7'0" so figure on 8'0" foot minimum water depth to be on the safe side.

- 2. Barbecue.** The stainless steel propane BBQ is mounted portside on the stern rail. Connect the propane hose from the port propane tank directly to the barbecue when ready to use. Please remember to turn off the valve at the tank if the BBQ will not be used for several hours. Also, as a courtesy to the next guest, please use the wire brush attached to the BBQ to clean it after use.

CAUTION: The outboard, if you have one, mounts on the starboard aft rail (while underway) near the BBQ. Never use the BBQ with the outboard on the rail mount. Put it on the dinghy. The outboard contains highly flammable gasoline and could explode from the heat of the BBQ!

- 3. Batteries.** Two battery banks are located in a compartment under the port forward settee in the cabin. The battery switches are located in the port aft berth. For normal operations, leave the battery switch on #1 (house) and only move the switch through "Both" to #2 (engine) when starting the engine. Then move the switch back through "Both" to #1 after the engine has been running for 15 - 30 minutes. **CAUTION: NEVER TURN THE BATTERY SWITCH THROUGH "OFF" OR TO "OFF" WHILE THE ENGINE IS RUNNING!** This will blow the diodes on the alternator, your batteries will no longer charge, and this will negatively impact your vacation and your damage deposit.
- 4. Berths.** RAVEN sleeps up to ten people - two in the forward cabin; two in the port aft cabin; two in the starboard aft cabin, and two adults or four children in the main salon (This requires breaking down the table and using the settee insert. A shorter post for lowering the table is located under the forward settee seat. See Cruising Checklist for details.
- 5. Bilge pumps.** There are two bilge pumps. The electric bilge pump is usually controlled at the electrical panel with the "Auto" or "Manual" switch. The pump has an automatic float switch. When there is enough bilge water to "float" the switch, the pump engages.

The emergency bilge pump handle is located directly above the manual bilge pump in the cockpit port aft side propane tank locker. Monitor bilge water daily and

alternate your choice of pumps to ensure that they are both functioning properly. Hopefully you will never hear the bilge pump start automatically. If you do, investigate immediately and report it to San Juan Sailing either by phone or VHF if a significant problem, or upon your return if a minor problem.

- 6. Dinghy.** RAVEN has a new inflatable AquaPro dinghy. The dinghy weighs 110 lbs. and can hold 1180 lbs of payload. A manual foot inflator is located in the starboard cockpit locker. Towing works best when the dinghy is brought close to the boat about 4 or 5 feet off the stern. This lifts the bow, reduces drag, and lessens the chance of wrapping the painter around the propeller. Tie the painter off **TWICE**, once at a cleat then the bitter end to a rail. We've recovered dinghies "lost at sea" by others who relied on a single cleat hitch.

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 toward the back of the dinghy. Then offload everyone over the bow. Lift the dinghy above barnacle height using the hand lines on either side, and deposit it gently on the beach. Remember to secure the painter under a rock or to a log—especially in the case of a rising tide.

- 7. Dodger.** *The dodger's plastic "glass" is vulnerable to scratching from salt crystals,* especially after sailing into a challenging breeze. The salt spray on the glass dries in the wind, leaving behind tiny salt deposits that obscure your vision. *Please avoid directly touching the glass with a rag or sponge.* It's like rubbing the glass with sand paper!

To clean, use generous amounts of fresh water using a pot from the galley, or a sopping wet sponge to "flood" the glass and dissolve the salt crystals away. If the dodger glass is really clear, you can thank previous guests for their diligence. We thank you too!

- 8. Electrical Panel.** Most switches at the panel board are self explanatory, but some circuits are unique.

AC (120V) Power. Although RAVEN has no built-in inverter, there is a 140 W / 2-plug portable inverter at the navigation station. The inverter can be used to charge cell phones, laptops and to operate the flat screen LCD TV/DVD. The AC outlets throughout RAVEN and the microwave oven will only function while connected to shore power.

Anchor Windlass. The breaker (i.e., the "on" and "off" switch) for the windlass circuit is on the outside of the settee directly across from the galley sink.

Fresh Water Pump. This pump pressurizes an accumulator located in the engine compartment behind the engine, and shuts down when the tank is at "working pressure".

Shore Power Circuit Breakers are located in the aft port cockpit locker and at the navigation station electrical panel. **Note: The master breaker in the aft port cockpit locker should be "on" at all times and the breaker at the navigation station should only be "on" while connected to shore power.**

9. Electronics.

Pains Wessex Precision 406 MHz GPS EPIRB

- The EPIRB is located in a wall bracket at the navigation station
- The EPIRB is an emergency device for use only in grave and imminent danger
- False alarms cost time and money. **DO NOT EVER REMOVE EPIRB FROM WALL BRACKET UNLESS IN GRAVE AND IMMINENT DANGER!**
- EPIRB activation and operating instructions are posted directly above the EPIRB
- EPIRB manual is located in the front of the Guest Charter Binder at the navigation station

The radar/chart plotter/GPS, depth sounder, wind instrument, and autopilot are all Raymarine products. There are laminated Raymarine-prepared quick operating reference guide located with the operating manuals. If you take them out during your charter, please return them for the next charterer.

Cellular Telephone & Computer: If you have them bring them. Cellular coverage in the islands is better than VHF. A 12 volt outlet is installed at the navigation station, and a 140W / 2-plug portable inverter is inside the table, for recharging your phone and computer.

Flat Screen TV\DVD: A 19" flat TV\DVD player is located in the locker above the Navigation Station. The unit has a self contained DVD player which is located on the right side facing the TV. The unit can be deployed from the compartment by loosening the friction on the 2 main pivot bolts and carefully rotating the unit so that the screen is visible. Tighten the knobs to lock in place. The power cord should be plugged into the 140 watt converter to play DVDs. TV programs are not available. The remote control is located in the top drawer below the chart table.

Depthsounder: The digital depthsounder will not give accurate readings beyond 400'. In deeper water unit sensitivity increases as the transducer tries to get some reading back. Consequently, you might receive false readings caused by currents, changes in water temperature, fish, and seaweed.

Use the depthsounder only as an aid to navigation in shallow water. The key to avoiding rocks is not the depthsounder, but rather knowing where you are at all times. **Rocks are the greatest navigational and safety hazard in the islands and are all clearly marked on the charts.**

We do not recommend using the alarm. It is likely to sound at inappropriate times such as late at night while fish are passing beneath the transducer.

Radar/Chart Plotter: RAVEN is equipped with a Raymarine DGPS/WAAS Color Chart plotter / Radar. The chart plotter may be used without the radar to minimize battery drain. GPS input to the Chart plotter comes from a Raystar 120 WAAS receiver mounted on the gimbaled radar deck.

To start Radar/Chart Plotter, turn on the electrical panel switches for both radar and chart plotter, then press and hold the power button at the lower left corner of the unit at the helm until it beeps and turns on the display. Use the power switch to toggle between Standby and Transmit. If you plan to save electricity and use the Chart Plotter only, toggle to Standby. The unit will start up in its last pre-shutdown mode (Radar only, Chart Plotter only, or split screen). Use the display key located at the lower right corner of the unit to change modes. To secure the unit, press and hold the power key for 3 seconds.

You should have little need of the radar or chart-plotter except for the highly unlikely event that you are suddenly enveloped by fog, which is rare in this area.

The fog we encounter usually burns off by mid-day. If it's still soupy after breakfast, we put on an extra pot of coffee until it lifts.

Knot Meter: If the digital knot meter 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 beneath the access hatch between the forward bed and head. You may wish to remove the impeller to clear it if you are experienced in such things. However, the GPS input to the chart plotter provides an alternate and quite accurate speed indication.

VHF Radio: The remote access microphone plugs into the port side of the pedestal and controls all radio functions of the unit mounted above the navigation station. We find this especially convenient while entering and leaving moorings.

Monitor channel 16 (the hailing and distress channel) during your cruise. After establishing contact on channel 16, switch to working channels 68, 69, or 79.

Scan the weather channels (typically channel 7) 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". 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 79 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).

10. Engine.

Starting.

1. Check the oil level. The dipstick is easily accessed on the starboard side of the engine. Access to the engine is by unlatching and removing the companionway stairs for access to the front of the engine. There is a wide gap on the dipstick between the full line and the fill line. **Do not overfill.** Use

the onboard spare oil to add no more than a cup at a time. Then check the level again. Overfilling is a very bad thing to do to a diesel. The excess oil will escape somehow, perhaps by blowing the head gasket. Also, if the dipstick indicates no oil the first time you check it, reinsert and try again - the correct level will show when the air lock bubble is broken. Expect the oil to be blacker than that of a gasoline powered automobile engine...this is normal for a diesel after only a few hours of operation.

2. While the cover is removed, check the coolant levels in the clear plastic tank mounted on the port side of the engine compartment. Coolant should be at least at the lower line of the tank. If it is below then use the onboard antifreeze to fill the tank up to the upper line.
3. Check for belt tightness, leaking fluids, and a clear raw water strainer. The raw water strainer is located in the port aft berth under the front corner of the bed closest to the engine compartment.
4. After you secure the companionway engine cover, check the battery switches inside the port aft berth and turn the battery switch to the "#1" position.

CAUTION: Look over the stern for things that could foul the propeller (like the dinghy painter)!

5. Make sure the gearshift (on the port side of the pedestal) is in neutral.
6. Push the throttle lever (on the starboard side of the pedestal) about 1/3 forward.
7. Insert the key into the ignition switch on the starboard side of the engine pedestal and turn it clockwise. The warning buzzer will sound because there is no oil pressure.
8. Press and hold the starter button located on the port side of the engine panel at the binnacle. Expect the engine to start in 5 seconds or less. If the engine doesn't start after 10 seconds of cranking, turn key to the left and remove it. Wait 15 seconds and try again. **If the engine will still not start, call San Juan Sailing.**
9. After the engine starts, release the start button, check over the stern for water gurgling out the exhaust, and gradually ease the throttle back to 1200 RPMs for at least 5 - 10 minutes to warm up the engine.
10. While the engine is warming up, check your fuel level and record your engine hours. Fuel gauges might stick but you can always count on the hour meter.

Please, always allow at least 5 minutes of warm up before placing a load on the engine. It is very hard on a diesel to be placed under load when cold.

NOTE: Please remember to pause with the throttle at idle before shifting into either forward or reverse.

Operation. The 56 HP Yanmar engines are very reliable. Our cruising speed is 7.6 knots at 2650 RPM. To avoid the possibility of sucking air or sludge when the fuel level approaches 1/8 of a tank, refuel when the fuel drops below $\frac{1}{4}$ full. Using 75% of our 46-gallon fuel capacity yields a 240 NM range, or about 30 hours of cruising. Please do not exceed 2700 RPM because it's hard on the diesel to push past cruising hull speed (at very little increase in speed). We find the engine runs smoothest at 2650 RPM.

Engine Overheat. If the buzzer sounds while the engine is running, immediately check the oil pressure and temperature gauges. If no oil pressure, shut down the engine, check the oil level, and contact San Juan Sailing.

The alarm buzzer is most likely to indicate engine overheating. **Check for water gurgling out the exhaust before you shut down the engine.** If you had a wet exhaust, check the coolant level after the engine cools down. If there was no water gurgling, the seawater strainer is likely plugged with eelgrass. The best solution to this problem is prevention, so keep an eye peeled for eelgrass masses, especially along those "soapy" tide and eddy lines in the water. When eelgrass gets sucked into the engine cooling water intake, it jams the raw water strainer.

To clear the seawater strainer, access the strainer by lifting up the front corner of the port aft bed closest to the engine compartment. Before clearing the strainer, close the seacock (below the strainer - a tight fit for those with large hands and forearms). Remove the top of the strainer by turning it counterclockwise. Extract the stainless steel filter element. Remove the eelgrass. Open the seacock momentarily to assure that it is not clogged. Close the seacock again and carefully reinsert the stainless steel filter element into the strainer. Replace the lid and tighten by turning it clockwise until the lid is seated on the rubber gasket. Reopen the seacock.

If upon restarting the engine overheats again, check that you remembered to reopen the seacock. If it is open, check the seal between the strainer and its lid. If the strainer is drawing air, it won't draw water. You might need to shut the engine down, close the seacock, and open and retighten the lid on the strainer.

Engine Shutdown. Never turn off the ignition key while the engine is running! First bring the engine to idle and the gearshift to neutral. Allow the engine at least 5 minutes to cool down. Then push the red button above the key until the engine stops. After the engine stops, turn off the ignition and remove the key.

- 11. Fuel Tank.** Before shutting down the engine note fuel gauge level so you will know about how many gallons of fuel to fill the tank (for instance, $\frac{1}{2}$ of the 46 gallon tank = about 23 gallons needed). The 46-gallon tank is located under the starboard aft berth and the fill tube is on the aft starboard upper side. The engine consumes 1.1 gallons of fuel per hour.

Please be very careful when fueling. **Never allow maximum flow from the filler hose** since the fill tube will surge and diesel will spill from the vents onto the side, onto the deck and into the water. It takes only a few drops of diesel fuel in the water to create a sheen and subject you to a hefty Coast Guard fine! Fill slowly and carefully.

When the pipe begins to gurgle like its full, check the dock fuel pump gauge to see if the number of gallons are near what you estimated the tank would take. If not, then continue to fill the tank but a bit more slowly. When full you may also be able to see the diesel when looking down into the fill tube.

Be very careful of drips when removing the hose. Diesel and shoe bottoms are a very slippery and dangerous combination. Check the side vent and, with dishwashing soap from the galley, wipe up any excess fuel to avoid yellowing the stern and polluting the water.

Note: Unlike automobile fuel gauges, fuel gauges on boats are notoriously inaccurate. Therefore, whenever the fuel level drops below $\frac{1}{2}$ full, you should refuel at your next opportunity. **NEVER let the fuel level fall below $\frac{1}{4}$ 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.

12. Head and Holding Tank. Please do not put anything in the toilet that you didn't eat first. Deposit toilet paper (and feminine items) in the receptacle next to the toilet, not down the toilet. RAVEN has a 22 gallon holding tank for the aft head and a 30 gallon holding tank for the forward head. Level Indicators in the heads indicate how full the tanks are. The forward tank has a multi-position sensor while the aft tank has a full indicator only. The macerator pump Circuit Breaker needs to be "ON" for the level indicators to operate. San Juan Sailing staff will discuss holding tanks and pumpouts on your arrival.

The toilets will only discharge into the holding tanks so please monitor them carefully! **If the toilet pump starts to resist your flushing effort, don't force it!** Exploding or leaking sewage is most unpleasant! This possibly indicates the holding tank is full and needs to be emptied. If the holding tank had already been emptied, then search out the problem and correct it.

Holding tanks can be pumped out dockside into a shoreside pumpout facility. Deck plates are located on the port side forward and starboard side beam. If you have persistent difficulty in getting the pumps to prime, make sure the deck pumpout covers are tight and lubricated with Vaseline (found in box of spare parts). It is possible the tank is drawing air through these fittings. Tanks are located under the forward berth and under the aft starboard berth.

OR

The macerator pumps are controlled by a main DC switch at the navigation station. **MAKE SURE INTAKE VALVES ARE CLOSED AND THRU HULL VALVES ARE OPEN PRIOR TO TURNING ON MACERATOR PUMP SWITCHES.** Run the pump only as long as necessary, usually 2-3 minutes. Pump will burn out if run dry. The forward head macerator pump switch is located in the forward stateroom on the port side forward of the forward head bulkhead. The aft macerator pump switch is located in the aft head above and aft of the toilet.

NOTE: IT IS ILLEGAL TO PUMP HOLDING TANKS OVERBOARD IN U.S. INLAND WATERS.

13. Heater. The diesel fired cabin heater is located in the aft port cockpit locker. The heater control is beside the Navigation Station. The rocker switch above the rotary dial chooses heat or ventilation. With the rocker in the heat position, rotating the dial to the right starts the unit and raises the temperature setting. Turning the dial all the way to the left turns off the unit and the fan will continue to run while the unit is cooling down. There are outlets at floor level in each cabin, head, and in the salon. Check and make certain that vents to the part of the boat that you are trying to heat are open. The heat is dry, comfortable, and on those rainy days or cool evenings, makes a huge difference in cruising comfort!

Note: *Please leave all vents fully open always.*

Heater takes about 10 minutes to heat up

For added safety, there is a Co2 sensor located directly underneath the heater control switch. In the unlikely event of heater malfunction there is a warning light that will come on and a loud warning buzzer will sound. **If the warning buzzer ever sounds, immediately open all ports and doors while evacuating the ship. Keep the boat extremely well ventilated and immediately contact San Juan Sailing.** Identify and repair the problem and be sure any remaining CO2 is completely out of the boat before again using the vessel.

14. Refrigerator. The well-insulated refrigerator must be turned on at the electrical panel. The thermostat is inside at the inboard forward corner of the unit. The best setting is $\frac{1}{4}$ (pointing starboard). We recommend running the refrigerator only while the engine is running or you are on shore power. This will help conserve house battery power. The refrigerator compressor in the aft starboard locker makes a buzzing noise while initially cooling but stops when the temperature setting is reached and runs intermittently in response to the temperature setting. Monitor the temperature setting so that food and drink do not freeze. It's best to leave setting at $\frac{1}{4}$ and use circuit breaker to turn on/off.

15. Sails / Rigging.

Mainsail - The main is fully battened, which gives good sail shape and reduces flogging during the hoist. Reefing may be done using the jiffy reefing system using the Green/White #1 Reef line located on the starboard side and the Red/White #2 Reef line located on the port side under the dodger in the cockpit.

The simplest way to reef is to first heave to. Then release the main halyard while bringing in the first reef line on the starboard. Once the reef is done, tighten the main halyard. If you want to put in another reef, simply follow this same procedure while bringing in the second reef line on port side.

When **lowering the mainsail**, the Stack Pac System will only work if the sail is **luffing**. First ease the **boom vang** and then the **mainsheet** until the sail is luffing, then lower the mainsail into the sail bag. Tension the mainsheet as needed. After sail is in the sail bag, zip up the bag with the cord attached to the zipper.

If necessary, ask San Juan staff for instructions prior to departure.

Headsail - RAVEN's 140% genoa/jib has roller furling, with good sail shape at the full out position through to a storm jib position with the clew forward of the mast. When allowing the headsail to unfurl, please hold a small amount of pressure on the furling line to ensure that the furling line coils properly around the drum.

When furling the headsail, hold a small amount a pressure on the sheet to ensure that the sail rolls snugly on the forestay. When sailing on a beam reach to a run you might want to place your jib sheets through the cars on the outside tracks for better sail shape. On close reaches and beats the inside cars will probably yield better sail shape and greater sailing efficiency.

16. **Sailing & Handling Characteristics.** RAVEN is a delight to sail. Her sail plan was designed for single or short -handed sailing. Under power, she backs to port. However, once she has sternway, RAVEN is easily steered with small rudder changes. Her perfect breeze is 15-20 knots with heel at 15-20 degrees. Full sail can be carried in winds up to 20 knots. If you reach the edge of your comfort envelope sooner, it's easy to use the single line furling to shorten your sails.

There is a spare halyard forward of the mast which, when sailing, should be secured out of the way. At the end of the day both halyards should be led to the lifeline to prevent annoying halyard slapping.

17. Cockpit Cushions. Cockpit cushions may be cleaned with a small amount of boat soap mixed with fresh water. After washing with the soapy water and sponge, rinse off completely with fresh water to remove any soapy film. Towel dry and store in the forward berth. If some or all of the cockpit cushions are not needed, just let San Juan Sailing staff know and they will remove and store them ashore for the duration of your charter. **Please, beware of sharp objects and avoid stepping on the edges which cracks them!** Thank you.

18. Shower. Hot water is stored in the 11 gallon insulated tank located behind the engine in the engine compartment. It takes about 30 minutes of running the engine under load to get hot water. While on shore power, you can heat water electrically but always remember to **TURN OFF THE ELECTRICAL HOT WATER HEATER AT THE MAIN ELECTRICAL PANEL WHEN FINISHED USING THE HOT WATER.**

Experienced cruisers know the sailor's shower: get wet, turn it off, soap up, rinse off. If the shower basin overflows, you're using too much water. Before entering the shower, activate the **SHOWER SUMP** switch on the electrical CB panel. During your shower, the **SHOWER SUMP** pump in the main head will automatically empty water from the floor. The shower sump in the forward head is operated manually. Shower water is pumped overboard. **CAUTION:** the engine can heat the water to scalding temperatures! On warm, sunny days, an alternative to the below decks shower is the swim platform shower. This is also a good way to rinse off salt after swimming, and dirt after going ashore.

19. Stove / Oven. The gimbaled propane stove has three burners and an oven. Propane is heavier than air and requires caution. The counter top over the stove slides outboard into a track that allows the underside of the counter (metal lined) to act as a back splash. For your safety, please follow these procedures:

Stove:

- A. Turn the aft starboard propane tank valve counterclockwise all the way open and then turn it back $\frac{1}{4}$ turn.
- B. Make sure all stove controls are in the "off" position.
- C. Turn on the solenoid valve switch at the main electrical panel. A red light will show on the panel.

D. Turn the burner to "IG" (Ignite), push and hold in and immediately push the red ignition switch located on the left side of the stove control panel. You will hear a click and the burner should ignite. If not, then push the red ignition switch again. After ignition continue to hold the knob in for a few seconds to ensure the burner remains on.

VERY IMPORTANT NOTE: WHEN BURNER SWITCH IS ON "IG" PROPANE IS FLOWING THROUGH THAT BURNER! TO AVOID FLASH, PUSH RED IGNITION BUTTON IMMEDIATELY SEVERAL TIMES QUICKLY AT THE MOMENT YOU HAVE TURNED THE BURNER TO "IG". IF BURNER DOES NOT IGNITE TURN BURNER OFF COMPLETELY BEFORE CHECKING SYSTEM!

If burner will not ignite, first be sure all burner and stove switches are turned off and then check the entire system to assure that:

- A. Propane tank has fuel
- B. Propane tank valve is turned on
- C. Solenoid valve switch is turned on at the main electrical panel at the navigation station
- D. Follow stove lighting procedure while ensuring the burner knob is pushed in when pushing the red ignition switch.

Oven:

1. The oven pilot light is lit manually with a hand held butane lighter or a match.
2. To light the pilot light, open the oven door and locate pilot light on the far right hand side just below the burner.
3. Turn oven control knob to "Pilot".
4. Ignite the butane lighter or strike match and hold flame under pilot light in oven.
5. While holding flame under pilot light push in the red button on the far right side of the stove control panel until pilot light is lit.
6. With the pilot light lit, continue to hold in the red button while you remove and extinguish the butane lighter or match.
7. Count to 5 and then turn the oven temperature control knob to desired temperature.

8. Keep red button pushed in until the entire burner is lit (about 5 - 10 seconds) and then release red button.
9. The flame should remain after releasing the red button. If the flame goes out, repeat the procedure.
10. Complete and detailed instructions are located on a placard below the front of the stove.
11. For all normal recipes reduce oven cooking time by about 15 minutes per hour.

When finished cooking, immediately turn the burner knob off and then turn off the solenoid switch at the panel (What little propane remains in the line from the tank to the galley is insignificant, and even if this tiny amount of propane were to leak into the cabin, it would not cause a problem.). You may wish to turn off the gas valve on the tank if you are leaving the boat.

NOTE: To clean the stove burners, squeeze metal clips together to release them. After cleaning replace clips back into same position.

NOTE: When closing the counter over the stove, be sure to pull it all the way forward before closing so you avoid breaking the counter.

MICROWAVE

USE THE MICROWAVE ON SHORE POWER ONLY.

20. Water - Hot & Cold Pressure.

The four water tanks and hot water tank (FWD = 50 gal, Port Sole =25 gal, STBD sole=25 gal, aft=20 gal, hot water 11 gal), totaling 131 gallons, are individually regulated through a distribution manifold located in the port stateroom under the front center portion of the berth (next to and aft of the battery switches). Turn on one tank at a time to monitor your water usage. To avoid an air lock, turn off the empty tank before you open the next tank.

NOTE: As a practical matter, draw from the forward tank first. It is the largest and when it is emptied it will reduce your bow weight.

NOTE: The fills are port and starboard amidships, forward on the starboard side, and aft on the port side. **Fill tanks slowly!** When finished, **BE CAREFUL NOT TO OVER-TIGHTEN THE CAPS!** A gentle closure (finger tight) is

sufficient. Be sure the caps are properly positioned to ensure proper threading when closing.

The water pump switch, located on the electrical panel, should be turned OFF when you leave the boat unattended. The pump is pressure activated and will not shut off automatically if water tanks should empty.

When heating water by shore power, please remember to always turn off the breaker switch at the main electrical panel at the navigation station when finished using hot water or leaving the boat. If the heater should ever run out of water it will overheat and could be damaged!

A caution light on the instrument panel by the water pressure pump switch will LIGHT when the pump is running. This can be very helpful when the engine noise makes it difficult to hear if the water pump is running excessively.

DOCKING

1. Docking guidelines can be found in the small quick-read book titled "Dockmanship" written by David Owen Bell located in the navigation station table
2. Head boat into the wind or current, whichever is stronger.
3. The stern of the boat pulls to PORT when operating in Reverse.
4. A docking line at mid-ship is a great help because of RAVEN's width and length of bow.

SECURING THE BOAT TO LEAVE

1. Connect shore power and activate power at the main breaker on the electrical panel. The Green light should be on.
2. **IF THESE LIGHTS DO NOT COME ON, PLEASE CHECK THE FOLLOWING:**
 - Shore power source
 - Main breaker ON
 - Circuit breaker switch ON inside aft port storage locker
 - GFI (ground fault interrupter) red reset button on right side of navigation station electrical control board.
3. Turn OFF all accessory switches.

* * *

We equipped RAVEN for both our own enjoyment and yours. We love her sailing ability, both in light air and in a blow, her very comfortable cockpit, ample storage, roominess below, and just the overall good feelings we have while aboard. We hope you'll love her too!

We earnestly solicit any suggestions for further improvements. Thank you in advance for taking special care of her! We're delighted to have you as our guests aboard RAVEN!

Rev5/9/11