

## Kia Orana Owners' Notes

### Lagoon 39

Welcome Aboard Kia Orana!

Kia Orana is a common everyday saying from the Cook Islands meaning "*may you live a long and fulfilling life*". Kia Orana is considered both a blessing and a wish for good fortune and something we hope for all our family, friends, and now you as our charter guests.

We love that we can share her with you and yours through San Juan Sailing and are excited for all the new adventures she will provide you. We have provided everything we would want on a long sail with every effort made to outfit her interior and galley with all the qualities and comforts of home that are sure to make your stay feel every bit luxurious, relaxing, and fun!

This modern, elegant, and spacious upgraded Premium Owners version of the Lagoon 39 includes:

- 3 cabin layout with king size berth and private en-suite, queen size berth, and v-berth.
- Comfortable sleeping arrangements for up to 6 people (8 with the salon dinette berth).
- Panoramic windows that provide lots of natural light and 360° views.
- Cockpit and main salon that flow together like an open-air apartment.
- Easily handled by one person at the helm thanks to the self-tacking jib and the aft placement of the mast to help balance any pitching movement.
- Elevated helm station well integrated into the cockpit allowing the skipper to run the boat with clear vantage points to see bow and stern on both hulls and still be a part of the fun!



We kindly ask that you treat her as if she were your own and please no smoking, pets, or spray on sunscreen 😊 (seriously...it will ruin the canvas and upholstery) allowed while onboard.

Our hope is that you enjoy Kia Orana as much as we do. If you can think of anything that would make her more enjoyable, please let us know through San Juan Sailing. Plus, please sign our Guest Book located in the salon. We love reading about your adventures and all the memories made.

Thank you for being our guests!

Warm regards,

Matt & Courtney Conner

## Table of Contents

1.	Kia Orana Boat Specifications and Vessel Information	3
2.	Kia Orana Nuances	3
3.	Emergency / Safety Equipment	5
4.	Anchors / Windlass / Mooring	6
5.	Barbecue	8
6.	Batteries / Charging / Inverter	9
7.	Berths and Bedding	11
8.	Bilge Pumps	11
9.	Dinghy and Outboard	12
10.	Dodger and Bimini	12
11.	Electrical	12
12.	Electronics and Instruments	13
13.	Engines	16
14.	Entertainment Systems	18
15.	Fuel	19
16.	Generator / Air Conditioning	19
17.	Heads and Holding Tanks	21
18.	Heater	22
19.	Lighting	23
20.	Propane	23
21.	Refrigeration and Freezer	24
22.	Sails and Rigging	24
23.	Showers and Sumps	25
24.	Spares and Tools	25
25.	Storage	25
26.	Stove and Oven	26
27.	Water	26
28.	Being Whale Wise	<b>Error! Bookmark not defined.</b>

## 1. Kia Orana Boat Specifications and Vessel Information

**U.S. Customs Re-Entry Decal** – Located on the helm console behind the wheel.

**Vessel Official Number 1281135** (same number as shown on the Coast Guard Certificate of Documentation found in Section 5 of the Charter Guest Reference Manual Binder. Kia Orana's number is in the salon on the inboard face of the freezer cabinet at floor level next to the salon door.

**AIS MMSI No. 368104170** – Transmitting full time Kia Orana's position and vessel data (heading, speed, vessel name, MMSI number).

<b>LOA</b> (length overall): 38'6"	<b>Year Built</b> 2017	<b>Fuel Tank</b> (2) 53 gallon
<b>LWL</b> (length of waterline): 37'10"	<b>Draft</b> 4'	<b>Holding Tanks</b> (2) 20 gallon
<b>Beam</b> 22'4"	<b>Displacement</b> 25,732 lb.	<b>Water</b> 79 gallons

Engine: (2) Yanmar 45 hp Diesels with 3 blade folding props

Sails: Fully Battened Main (406 sq ft with lazy jacks and stack pack) & Self-Tacking Jib (344 sq ft)

Electronics: B&G Electronics Package (4G Radar, Sonar, ForwardScan, Autopilot)

Staterooms: 3 Doubles | Bed Dimension

- Port (Owners Cabin) 6'7" x 6'6" (King)
- Starboard Aft 6'7" x 5'2" (Queen)
- Starboard Forward 6'7" x 5'2" (v-berth)

Headroom: Salon Headroom - 6'7" | Heads - 6' | Cabins - 6'2"

Heads: (2) electric raw (salt) water flushing

Refrigerator: 4.5 cu ft

Freezer: 3.5 cu ft

## 2. Kia Orana Nuances

There are a few things about Kia Orana 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. We have listed some here because we believe they will help you plan your charter.

**Head Flushing**: The plumbing run to the holding tank is not short and is uphill. Therefore, we **HIGHLY** recommend when flushing *solid* effluent, do a second flush with plenty of water in the bowl to help move the solids all the way to the holding tanks.

**Fridge/Freezer**: Fridge is currently set at "Medium". The fridge tends to run cool and freeze items that are placed on the top shelf. We find "Medium" to be the optimal setting to keep things cool but not frozen. Freezer is currently set on "Max". The freezer will keep items significantly colder than the fridge, but the max setting does not freeze like a standard freezer. Be aware that items may defrost slightly.

**Galley Sink Manual Water Pump:** There is a ball valve under the sink behind the garbage can, you can select fresh or raw water. Our default is raw water. To conserve your fresh water, we find cleaning dishes with raw water using the foot pump and rinsing with fresh water the best strategy. To ensure the foot pump is working, make sure the right sink facet knob is turned towards the window. This opens the faucet and allows raw water to come out.

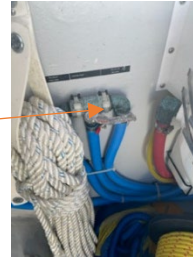


Facet Knob located here.

**Anchor Washdown:** There is a ball valve in the forward center starboard locker. You can select fresh or raw water to wash down the anchor. The pump power switch is located under the nav station desk.



Pump power switch located here.



Valve to select fresh or raw water.

**Folding Propellers:** After shutting down the engines we shift into reverse for a second to stop counter-rotation, allow blades to feather, then shift back to neutral.

**Turning off the Engine Panels:** To turn the engine off, press and hold the "STOP" button on the engine panel until the engine stops. Now turn off the engine control panel – press and hold the "I" button at the bottom of the panel for several seconds until the LCD display goes blank. If you do NOT turn off the LCD display it will drain your house battery. Plus, make sure to turn off the Throttle Power Switch, following shutting down the engines.

**Rudders in Reverse:** The rudders are in front of the sail drives. When driving in reverse and with any significant throttle increases, the rudders will swing quickly to one side. Please firmly hold onto the wheel.

**Vessel Security:** Please note our engines do not have keys. For security we turn off the engine start batteries when not in use. See Batteries/Charging/Inverter Section of this document for location of battery switches.

**Air Conditioning:** The generator puts out 120/240V and is the only way to power the Air Conditioning units. Shore power cannot run the connected A/C units as they need 240v.

**Engine Starting:** If when starting the engines, the panel beeps at you with a warning - check the top of the engine. There is a red round button on top. If it gets bumped, it turns to "Stop". Make sure that button is set to "Run".



Engine "Run" button located here.

**Autopilot** – Sometimes the autopilot appears to be "wandering". We have found this is from: surfing waves, strong currents or it is set to follow the wind and not a heading. If it starts doing this, we find it easiest to hit standby and reset autopilot with the auto button.

**Helm canvas** - To put the starboard side panel on, we find it easiest to first put the bolt in the channel. Then move to the top forward zipper. Only zip 3-5" then move to the back top then back vertical. Lastly move to the front vertical. By only zipping 3-5" of each, it will make it easier. Once all are started, zip them all completely.

### 3. Emergency / Safety Equipment

#### Highlights

- **Fire Extinguishers (3):** one under nav table in salon; one in the starboard hull at the foot of the stairs forward side; one in the port hull at base of the bed inboard side.
- **First Aid Kit:** In port hull head in vanity cabinet.
- **Life Vests (6):** 2 in each stateroom hanging locker, 8 adult foam life jackets in salon under settee seat.
- **Horn:** In green mesh bag in aft cockpit locker.
- **Flares (4):** In green mesh bag in aft cockpit locker.
- **Tapered StaPlug (Orange Foam):** In green mesh bag in aft cockpit locker.
- **Flashlights:** Salon, under nav table in mounting brackets. Salon, in cubby adjacent to nav station facing the galley. Starboard hull companionway mounted on wall across from the head.
- **Emergency (manual) Bilge Pumps.** Pump handles insert into the pumps on the inboard side of the cockpit aft lockers. The handles are stored in clips on the underside of the cockpit aft locker lid. Note: if water rises above floorboards, can use shower sump pumps also in emergency.
- **Emergency Tiller.** Long pipe in aft cockpit locker.
- **Lifesling (Horseshoe Buoy),** Starboard stern pulpit. The lanyard is secured to the boat so that tossing the floating harness allows it to tow behind the boat like a ski tow rope. Circling the person overboard will draw the recovery line near them. There is also a floating light beacon stored on the rail.
- **VHF Radios,** Ch. 16. VHF base unit at nav station & handheld at helm in charging bracket (or in nav desk when not in use. There is a secondary handheld VHF (for the dinghy if interested).
- **Cockpit Cushions.** In case of MOB, throw anything that floats, quickly.
- **Tools:** West Marine Shipyard 175 pc toolkit and supplemental tool bag in port stateroom under settee seat.

#### Details

Through Hull Valves/Fittings (schematic showing through hull locations is in the Charter Guest Reference Manual)

#### Port

- Forward Head (just aft of the door under floorboard)
  - 1) A/C raw pump
  - 2) Waste holding tank (closed in US waters)
  - 3) Raw toilet water
  - 4) Depth/Speed transducer
  - 5) Forward scan
  - 6) Under sink - sink drain
- Midship at bottom of companionway (under floorboard)
  - 1) Genset outlet
- Aft (under floorboard)
  - 1) Raw water foot pump
  - 2) Genset inlet

#### Starboard

- Forward Cabin (under floorboard)
  - 1) A/C inlet
  - 2) Waste holding tank (closed in US waters)
  - 3) Salon A/C outlets (2)
- Midship at bottom of companionway (under floorboard)
  - 1) Flushing inlet
  - 2) Bilge outlet

- 3) A/C outlets (2)
- 4) Aircon outlets (2)
- 5) Sink
- 6) Washdown pump inlet

#### Engine compartments

- Both engines get raw water from the seacock on their respective sail drive

## 4. Anchors / Windlass / Mooring

### Highlights

- Please be careful of fingers and feet around the windlass.
- Main engines need to be running for the windlass to work.
- Delta primary, 200' chain, yellow poly line at each 25' for first 100' then each 50' after.
- Danforth secondary in cockpit locker.
- Salt/Fresh water washdown.
- Bridle always hooked on the cleat unless chain is moving.
- Chain can build into mountain in chain locker when retrieving / use boat hook mounted in cockpit ceiling companionway to push down the chain so it does get jammed.
- 350' polypropylene stern tie line in forward starboard center locker.
- Remote located in the forward center port locker (next to generator).

### Details

Primary Anchor - Delta mounted on the bow, with 200' 3/8" chain, 2' yellow poly line at each 25' for first 100' then at each 50' after (150' and 200'). Wash down pumps raw or fresh water from ball valve in chain locker. Circuit breaker located under the nav table labeled "Deck Washer Switch".



Bridle - Permanently attached to each bow and clipped to anchor.

Secondary Anchor - Heavy duty but lightweight aluminum Danforth anchor stowed in the forward center starboard locker. Rode is coiled and hung in locker.

#### To Deploy Anchor:

- 1) We check tide tables to determine current water level and amount of drop while anchored.
- 2) Weather (Ch 4 or 7, "Northern Inland Waters") helps select an anchorage.
- 3) The windlass breaker is in the port aft cabin in side panel with battery switches.
- 4) Normal for the San Juan Islands is a 4 to 1 scope, bow to bottom (add 5 feet to depth sounder reading: 4' freeboard and 1' for transducer below waterline). In San Juans, anchorages are often about 25' bow to bottom, so we often deploy about 100' chain.
- 5) With one fluid motion we lower to approximately the number of feet on the depth sounder so the anchor is near the bottom by depressing the down switch.
- 6) A signal to the helmsman prompts reverse at idle speed while deploying rode to the desired scope.
- 7) We then allow the anchor to set and to stop the boat while it continues in reverse, idle speed. We then line up objects on shore to determine if we are holding, staying in reverse at idle for about one minute.

- 8) Finally, we hook up the bridle, then ease the windlass so it is not under strain. After connecting the bridle, (if stronger winds are forecasted) we test with RPM at half the projected windspeed (1,000 rpm for winds to 20 knots; 1,500 rpm for 30 knots, etc), *after* setting bridle. We check movement shoreside, not the significant prop current going by the chain.
- 9) In storm conditions (or storm forecast), you can increase scope if there is adequate room to leeward.
- 10) The secondary anchor is available for additional holding power if a storm is anticipated, but best if set before the storm hits.
- 11) If anchored in a small cove, you may wish to deploy a line ashore. 350' floating polypropylene on a reel resides in the starboard bridge deck locker (in front of the forward salon window). Use the mop handle (located in starboard forward hatch as an axle through the reel; securely set mop handle on helm seats. Deploy the line with the dinghy while the spool unwinds. If sufficient length, bring the line around a secure shore object and back to the boat to a transom cleat for ease of retrieval.

To retrieve the anchor:

- 1) The anchor washdown pump circuit breaker is located under the nav table next to the fire extinguisher, labeled "Deck Washer Switch".
- 2) Start the port engine, given that the windlass draws from the port engine start battery (windlass will not work without the port engine on).
- 3) Depress "up" switch, always assuring the chain is vertical during retrieval—this avoids either towing the boat or dragging the chain against the hull. Into a breeze, we engage forward gear as needed, but exercise care that we don't overstand and drag the chain against the hull.
- 4) As needed, we clean the chain with the water pressure hose during retrieval (run hose outboard of your foot so that it doesn't get caught in windlass).
- 5) A mountain under the windlass can jam it and in rare cases cause a wild gravity runout of rode. If that happens, stand clear for safety. We avoid that chain "mountain" by "lifting" the chain forward in the well as it is retrieved, using the boat hook (mounted in the cockpit companionway ceiling). We grab the chain with the boat hook and pull it forward as another crew feeds it by pressing the "up" switch, 2'-3' at a time. Important for the initial chain retrieved. Last 50' can stack under windlass.
- 6) As the length of rode remaining approaches the water depth, the sound of the windlass laboring alerts us to immediately stop. Sometimes a brief pause will cause the anchor to break free, given the 90 degree angle of pull. However, if the laboring continues after brief tap on the up button, the anchor should be broken out with the engine in idle forward and not with the windlass.
- 7) To nest the anchor without chipping the hull, the anchor may need to be swiveled. We use the windlass to bring the anchor shank up and over the bow roller in one continuous motion, then nest the anchor by hand.
- 8) After nesting, with a slight *slack in the chain*; we secure the anchor once again with the bridle on the windlass-mounted cleat.
- 9) Reminder: put the windlass remote back in the holder *before* closing the anchor locker lid.

- 10) Turn off the “anchor wash” circuit at the nav station to avoid burning out the pump! (windlass breaker normally remains ON. Good in case of emergency deployment.)
- 11) Lock the anchor in place by swiveling the chain lock, placing the arm over chain, and clockwise turning the dial until it is relatively tight.

## Mooring



To grab a mooring ball, we have found the “Hook & Moor” to be an invaluable tool. The “Hook & Moor” is in the starboard forward locker. For mooring balls that have a recessed ring that is below the edge of the mooring ball, it is helpful to have a 2<sup>nd</sup> person with the Boat Hook (located in the cockpit companionway – at ceiling level), to hook the ring and hold steady while the other person performs the “Hook & Moor” step.



- 1) Set both mooring lines onto the forward cleats.
- 2) Place the 1<sup>st</sup> line in the “pull” position on the hook (see illustration on the pole for reference). It’s helpful to have ½ of the line trailing so you have enough line to pull through the mooring ring and back on to the boat.
- 3) If you have not used this tool before, practice “hooking” something on the boat prior to attempting to hook on the mooring ball.
- 4) When ready, set the line on the hook and hook the mooring ball then tie the line off on the cleat. Make sure the line is running outside of the hull.
- 5) Repeat on other side.

## 5. Barbecue

### Highlights

- In-line isolation valve in propane locker (located in the cockpit under the forward seat).
- Please clean grill when finished.

### Details

The propane fired stainless steel BBQ is mounted on the port stern rail and is permanently connected to the dual propane tanks. To use the BBQ, there is *no need to open* the propane solenoid in the salon. We open the in-line valve in the propane locker. Open the BBQ lid and use the lighting stick (from the galley) to ignite.



## 6. Batteries / Charging / Inverter

### Batteries

#### Highlights

- Battery switch panels are located in each hull, in front of the aft berths, inboard side behind small cabinet door.
- Port Panel – Port engine, house batteries.
- Starboard Panel – Starboard engine, parallel (emergency start) switch.
- Turn off the engine battery switches when leaving the boat to help prevent vessel theft (engine control panels are keyless starts).
- No need to touch the house battery switches. All automatically charged with combiner.
- House batteries – have 240 usable amp hours (Ah).
- Average consumption, engine shutdown until next morning: 100 Ah.
- Capacity remaining measured in volts (11.8v minimum). Meters for both. At 11.5v an alarm will sound on House Batteries. Immediately recharge batteries by running the engines or generator. Please avoid running the batteries below 12v.

#### Details

We check both Ah used and the voltmeter before retiring for the night, then check both again on engine startup next day to assure we are charging properly. The system charges the house bank first, then the start bank, using a combiner. Leave the switches alone, except to combine for emergency engine start. For reference only, battery switches are in both aft staterooms. The domestic/house switch in the port hull should always be on. The engine switches should be off (vertical) unless using the engines.

Battery Monitor is located to the right of the nav desk.

The parallel switch on the starboard panel is the emergency crossover should you ever need the house bank to fire the starboard engine. Again, it should normally remain in the vertical position. **Caution:** we are careful when we have children aboard to **not** allow them to play with the switches while the engine is operating. The alternator diodes could be destroyed.

The engine's high output alternator and smart regulator deliver maximum battery recharge, while separating the "draw" so that the engine start battery is never drawn down by house loads. However, the regulator will still "tamp down" alternator output to avoid boiling out the batteries. Thus, it is often impossible to fully top off batteries from the engine alone. The engine doesn't run long enough. If the "Ah consumed" stays between -100 and -200, we try to top off overnight on generator or shorepower. Hint: one mid-week overnight on generator or shorepower helps top off the batteries, especially if we've had a few days of good sailing/little engine use.

#### Engine Start Batteries | Location:

Port Engine - Under forward mattress

Starboard engine - Forward aft bed under floorboards

Battery Switches and High Amperage Breakers in Port Hull



Battery Switches in Starboard Hull



Generator - Forward center port locker next to generator

House Bank - located under the port bed

The batteries can be charged by:

- Running the generator – see **Generator/Air Conditioning** section for detailed steps for turning on generator.
- Running the engine
- Shore Power – see **Charging** section for detailed steps for connecting to shore power and ensuring the batteries are charging.
- Solar panels



### House Battery Monitors:

Voltmeter on DC Panel: Use the “Domestic” V Gauge to determine your house battery voltage. Please do not run batteries below 12.0V. If ran lower, then 11.5V house battery alarm will sound. If alarm sounds, please use generator, or run the engines to recharge batteries.

## Charging

### Highlights

- The house and engine start batteries are charged when connected to shore power, running the generator, or when the engines are running at cruise RPM and automatically by the solar panels.
- The generator start battery is charged only when the generator is running.

### Details

#### Connecting to Shore Power:

- There are (2) 120V 30A shore power cords located in the aft cockpit locker.
- Connect one cord to the boat first (starboard side at top of transom steps, top outlet – bottom not used).
- Run the cord to the dock outlet. Connect the extra 50' cord if needed. **Turn OFF the dock breaker before plugging in the cord.** Plug in the cord and turn ON the dock breaker.
- Flip on the secondary breaker in the cabinet in the port hull immediately forward of the stairs at chest level. After a few seconds the voltage on the panel should read around 120V.
- Flip on the tertiary breaker on the AC Panel at the nav station in the salon. Verify that the batteries are charging: after a few seconds check the voltage on the panel monitor. It should read >13V.
- Note that the primary shore power breaker is located in the starboard engine compartment on the forward bulkhead, outboard side and is always ON. **It rarely trips but can be reset once if it does. If it trips a second time do not reset, call San Juan Sailing for advice.**
- Do not run the Generator when on Shore Power.**



## Inverter

### Highlights

- Inverter unit shown on right is located in the port hull cabinet immediately forward of the stairs, at thigh level.
- Provides power to the 120V outlets for use by low amperage devices - TV, DVD, phone charging and laptops. High amperage appliances like heaters and hair dryers will rapidly deplete the batteries.



- Push black rocker switch to the ON position when AC power at the outlets is needed when underway or at the dock. Always leave rocker switch in OFF position when not in use.

Circuit breaker is on a separate panel in same cabinet as the inverter at the forward end. It is always left ON.

## 7. Berths and Bedding

### Highlights

Each berth has a “**breathing barrier**” under the cushions to dissipate body and boat moisture. No need to raise the cushions for airing each morning. The aft cabins feature the same extra thick mattresses and wrap around mattress pads and have a crushable spun fiberglass breathing barrier underneath. Each berth has alternative down duvets. SJS provides 2 sheets and pillowcases for each berth.

### Salon Table into Bed

The Salon Table converts into an additional bed OR a great place for a Movie Night! Below you will see step by step illustrations on how to convert the Table into a Bed. The additional shorter legs are located in the Port Closet (with the life jackets) and the cushion is in the Port Forward Shower. If the cushion is not onboard upon arrival, please ask SJS for location.



- 1) Table
- 2) Take off tabletop and remove longer table legs
- 3) Replace with shorter table legs
- 4) Place Table onto shorter legs
- 5) Place cushion on top of table

## 8. Bilge Pumps

### Highlights

- **Emergency Manual Pumps:** Located on the inboard side of the aft cockpit settee seat. Handles are clipped to the underside of the settee seat locker lid.
- **Electric Bilge Pumps:** In each hull, mid floor at the bottom of the companionways. Normally automatically controlled by float switches or can be manually turned on by pressing the rocker switch on the DC panel at the nav station.
- **Shower Sump Pumps:** In emergencies, the shower sump pumps can be turned on if water rises to the shower floor level.

## 9. Dinghy and Outboard

### Highlights

- 10' aluminum hulled Highfield dinghy (2017), 6hp Suzuki on davit.
- We load the dinghy on the davits but if you want to tow, tow 6' off stern, place loop over port aft cleat; tie off bitter end.

### Details

1. *Never tow the dinghy with the outboard* on the dinghy or overnight. Always transfer the outboard to the sailboat transom. It could flip and swim, costing you an outboard.
2. The 6hp OB takes straight unmixed gasoline.

## 10. Dodger and Bimini

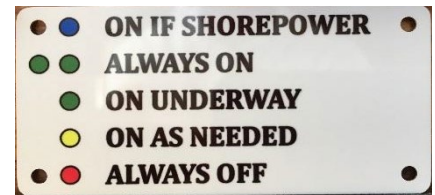
### Highlights

- All panels can be unzipped and rolled up taking care not to crease (straps and buckles hold it up).
- Hint: if we get early morning dew fogging our dodger glass, or salt crystals from spray, we rinse off with a pan of fresh water from the galley (salt crystals may need a second splash). We *avoid wiping*. We ask that no aerosol spray-on sunscreen be used on the boat. Sunscreen will destroy the glass.

## 11. Electrical

### Highlights

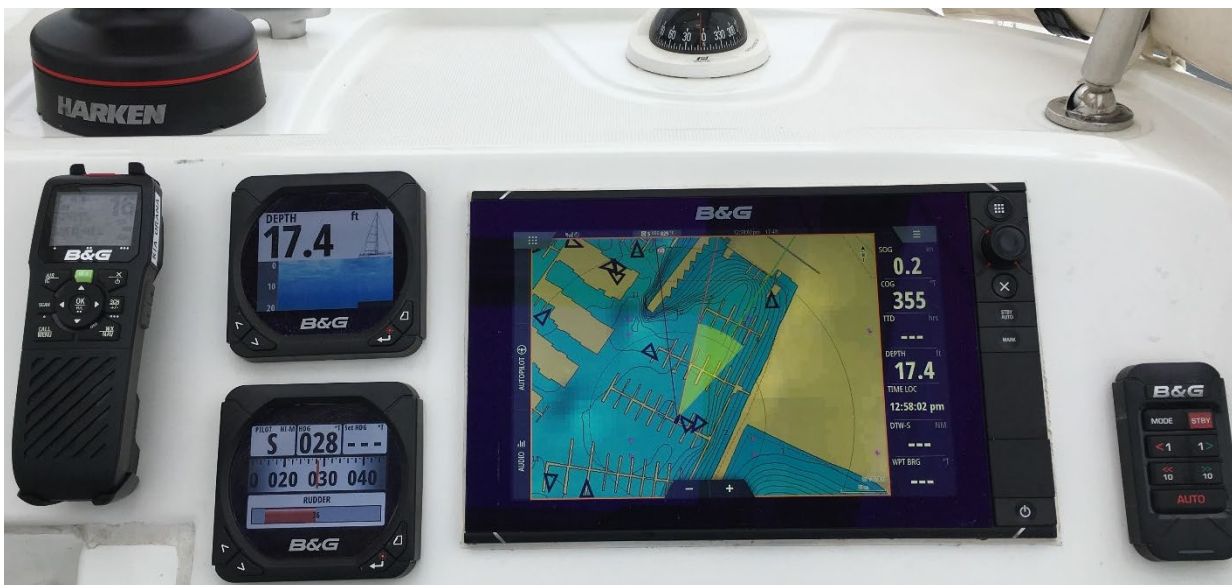
- The AC/DC Panel is located at the nav station in the salon.
- The AC/DC panel breakers use the color dot convention shown on right.
- AC shore power primary breakers are located in the starboard hull engine compartment - forward. They rarely trip but can be reset once if they do. If they trip a second time do not reset, call San Juan Sailing for advice.
- AC shore power secondary breakers are located in the port hull cabinet immediately forward of the stairs at chest level.
- Battery charger breaker is located on the AC side of the AC/DC panel at the nav station.







## 12. Electronics and Instruments



### Chartplotter

#### Highlights

- B&G Zeus 2 12" color chart plotter display chart (touch screen), radar, SOG, and COG.
- Nearly all controls are on the upper right: the toggle, surrounding doughnut and menu button.

**Navigational Chart:**

Zooming In and Out: Touch Screen. Two fingers can be used or use the + and – on the screen.

Returning the screen to the vessel's current location: To return to the main Chart, simply press the upper right button with the 9 square blocks and select "Chart".

Clearing pre-existing Waypoints, Routes and Tracks: Select the 9 square block button in the upper right corner, select "Waypoints" from the home screen (upper left) and select "Delete all" on the bottom of the screen.

Display Brightness: Swipe down on the upper left hand of the home screen and drop down will display. Select "Brightness".

**Details**

- 1) At nav station, flip "Nav Instruments" circuit breaker switch on (red light indicates it's on).
- 2) At helm unit, press "Power" for about 2 seconds (lower right).
- 3) Press in toggle (upper right) for "ok". If not defaulted to chart, press "home" and toggle to chart display.
- 4) Press the + or - to zoom in or out.
- 5) To customize your "instruments" on the right side in Chart Mode, you can simply press down on the instrument you want changed (for 2 seconds) and edit. You can select items such as: SOG, COG, Depth, POS, TWS, AWS, Time, etc.
- 6) To change the depth from meters to feet, press the upper left 9 square block, select the "compass-like" symbol again in the upper left, scroll down to "Units" on the left side, select "depth" and edit as needed.

Note: the green line projects your course based on your COG (course over ground). Very handy for crabbing into the current when necessary to avoid being swept off course and onto rocks/reefs! Because the GPS COG is so accurate, we no longer use the magnetic compass aboard.

To choose "heads up display" or "north up display", press "menu", rotate doughnut to "presentation", choose display. Again, please do not customize beyond this.

We use the paper Maptec Chartbook (located at the nav desk) for pre-planning, for continuous orientation underway and for pre-locating rocks and reefs on our planned route. We use the chart plotter to track our position underway in detail, for occasional confirmation of chart position, and for navigating in coves.

When turning on the B&G Unit, occasionally it will note "System Update", please disregard "1 week" and the MP (Mechanic Pro) will verify during charter turnaround.

**Radar:****Highlight**

- 4KW digital radar overlays onto chart display

**Details**

- 1 – "RADAR" circuit breaker is on the electrical panel under the nav station, behind the panel.
- 2 – At the helm, push the "home" button, rotate doughnut to "RADAR" from the menu, press toggle in to select. Allow warmup.
- 3 – Rotate doughnut to switch from "Standby" to "Transmit".

4 – From “home” you can choose to show radar only, radar and chart plotter side by side, or chart plotter with magenta radar overlay. We normally leave the unit preset to radar overlay when the radar is activated; sometimes we find it beneficial to show a side-by-side display for greater radar clarity.

We do not cruise at night or in fog. The radar is especially useful should one be *unpredictably* enveloped in fog or heavy rain. If there is fog either visible or in the forecast, we stay at our mooring until it lifts (normally before noon).

### **A.I.S. (Automatic Identification System):**

#### **Highlights**

- Kia Orana continuously transmits her position and data via AIS signal as well as receives AIS signals from other vessels equipped with AIS transmitters (Commercial vessels are required to have AIS, recreational vessels are optional).
- The chart plotter shows AIS vessel positions as triangles.
- AIS information supplements marine radar, which continues to be the primary method of collision avoidance for water transport.
- AIS requires each vessel to have a 9 digit MMSI (Maritime Mobile Service Identity) number to transmit position and data. Kia Orana's MMSI number is 368104170.

#### **Details**

AIS vessels appear on the chart plotter screen as triangles. The triangle points in the direction that the vessel is moving and if you touch the screen over the triangle the system will give you additional information (such as name, size, speed, bearing, etc.) about the vessel. The system also transmits this information about Kia Orana to other vessels with AIS.

The AIS is an added safety feature for coordinating search and rescue and allows San Juan Sailing/Yachting to provide faster assistance in case of unplanned maintenance issues as well as alert San Juan Sailing of Kia Orana's return approach. Vessels with AIS can be viewed in real-time through mobile device apps and websites like [www.marinetraffic.com](http://www.marinetraffic.com) that will reveal vessel name, course, speed, track, and other information.

### **Autopilot**

#### **Highlights**

- Press “AUTO” button (at bottom) or “ENGAGE” on the Display Screen to activate Heading Hold.
- Press arrow keys to alter course to port or starboard by 1 deg or 10 deg increments.
- Press “STBY” (top right) to regain wheel steerage.
- Must be in “STBY” to make quick heading changes to avoid other vessels or steer around crab pot floats, etc.

### **Depthsounder**

The B&G depthsounder is calibrated in feet and is set to read from the transducer, which is about a foot below water level. If you assume the reading is from the top of the water, you will have a very modest 1-foot safety margin. Due to rocks, we get nervous in anything less than 30 feet underway and 15 feet in an anchorage.

The depthsounder is powered through the “Autopilot” circuit breaker.

Please note that depthsounders sometimes give false readings in deep water. In the San Juans, 400'-600' are common depths in some channels and you may see false readings as the sensitivity on the transducer increases to give some reading, often from changes in water density, salinity, or underwater debris.

Due to those changes in depth readings (especially in very deep water), we do *not* set depth alarms, but always know our position on the chart.

Please note: You *cannot* rely on the depthsounder to avoid rocks! It is possible to go from 300' to on the rocks in less than 30 seconds under sail in some areas. The answer is simple: we always plan our route on the chart and track our position on the chartplotter. Rocks are clearly marked.

**Knotmeter**

You have two speed sources: speed through the water (registered by the knotmeter at the aft end of the cockpit table), and speed over ground (registered by the GPS on the chart plotter, which takes current into account).

The knotmeter reads slightly faster on one tack than the other.

**VHF radios**

**Highlights**

- **B&G Base Unit VHF radio at the nav station.** This must be turned on prior to turning on the handheld radio.
- **B&G Handheld VHF Radio.** While not underway, store on chart table. While underway, click it into the inductive charging bracket (the bracket is always ON and is charging the VHF while it is clipped in) at the helm.
- **Always monitor Ch 16.** As the nearest vessel to an emergency, you may be able to save a life or a boat.



Handheld VHF location When Not Underway

**Details**

For your convenience, we have “tagged” two channels for you: 80 (San Juan Sailing) and 16 (the emergency/contact channel). Please remember to *touch the “scan” button on top of the remote mike* after each use so that you automatically monitor channel 16 while underway.

The “WX/CH” button accesses the weather channels (channel #4 or #7 are most often in range in the San Juan Islands). We listen for “Northern Inland Waters”. Pressing “WX/CH” again returns the normal channel.

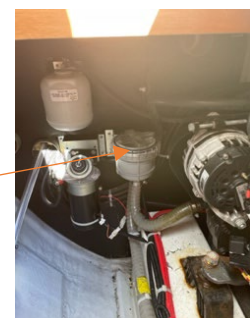


13. **Engines**

**Highlights**

- The rudders are located in front of the sail drives.
- Yanmar 45hp 3 cylinder diesels, SD60 sail drives and 3 blade feathering prop.
- The rear hatches access the engines from the top for daily engine “lookover”. This “before engine start” shows us in one quick view any black powder belt wear or loose

Sea Strainer in Starboard Engine Compartment.





belt, oil in bilge, eelgrass in strainer, or coolant spillage. Before turning on the engines, please check for eelgrass caught in the strainers.

- Avoid excessive idling.
- 2000 rpm is economy cruise.
- 2200 rpm is cruising speed.
- 2500 rpm is emergency fast cruise.

### Details

Raw water strainer is at water level. No need to open or clean unless the engine overheats but should be visually checked from the outside with a flashlight each morning prior to departure. If it's necessary to clean it out, you turn counterclockwise to open the inlet seacock. The strainer bowl should refill itself. If not, you may need to "blow out" eelgrass from the hose/seacock with the dinghy foot pump, very forcefully. When replacing the lid, please avoid over-tightening.

Oil dipstick access is on the starboard side of the engines. The engine is not known to use oil; nevertheless, a spare quart lies on the wooden ledge inside the engine compartment. Mechanics check the oil levels weekly.

### To Start:

- There are no keys to start the engines, make sure both engine battery switches are turned on (Port and Starboard aft staterooms inside the small cabinets on inboard side. Cabinet doors are labeled).
- Check all around the boat exterior to ensure no lines are in the water.
- Assure throttle/gearshift is in neutral.
- Turn on the engine control panel – press and release the "I" button at the bottom of the panel – the panel will "beep" and the red warning lights will illuminate for several seconds then turn off (see photo of panel on right).
- Start the engine by pressing and holding the "Start" button at the top of the panel until engine is running – but hold no more than 5 seconds.
- Listen/look for the cooling water coming from the aft end of each hull.
- Most engines idle too long, causing carbon buildup. If in a marina, we start the engine just before loosening lines.



Figure 1. Throttle Power Switch

Figure 2. Starting Position: Neutral, "Take Slow" and "Warm" (both buttons are orange)



Figure 3. Throttles are engaged.

### Throttle

- Once both engines have started, press the Throttle Power Switch to turn on the throttle controls (located between the engine gauges – Figure 1, shown above).
- Once the throttles are on, the system will default to the "Take Slow" and "Warm" buttons as Orange (See Figure 2), press the "Warm" button to turn off – the throttles are now engaged and can control the motors (See Figure 3).

### Running:

- 1400 rpm is about 4 knots—marina speed.
- 2000 rpm is economy cruise, about 6 knots, approx. 1 gph, range: 50 hours, 300 NM.
- 2200 rpm is cruising speed, about 8 knots, approx. 1.5 gph, range: 35 hours, 280 NM.
- 2500 rpm is emergency max cruise, for short burst only.

Be careful to pause 1-2 seconds after the “click” into gear before accelerating to protect the transmission. We always pause when changing from forward to reverse.

Shutdown:

- Cool at modest rpm for 2 minutes after running at cruising speed (not necessary to cool down after entering a marina or anchoring, since the lower rpm will have cooled engine.)
- To turn the engine off, press and hold the “STOP” button on the engine panel until the engine stops. Now turn off the engine control panel – press and hold the “I” button at the bottom of the panel for several seconds until the LCD display goes blank.
- **PLEASE NOTE:** When turning the engines OFF; always use the “STOP” button 1<sup>st</sup> and never turn OFF the engines with just the “I” button. Follow the instructions above.
- After the engines have been shutdown, power off the throttle controls by pressing the Throttle Power Switch.



Reminder

- Remember if you are leaving the boat; turn off the engine batteries since there is no key for the engines.
- After turning off the engine to sail, slipping into *reverse momentarily* stops prop counter-rotation and feathers the Max-prop (you will sail faster!). A return to neutral prevents accidental start of the engine in reverse.

Engine overheat:

Normal engine temp is 180 degrees. If the alarm sounds or steam comes out the exhaust, please check the amount of water coming out the exhaust. If it is little or none, the most likely cause is eelgrass plugging the raw water strainer, located at the forward port side of the engine, which you saw on your Daily Engine Lookover. If the engine overheats with adequate water flow out the exhaust, check the coolant level in the engine. Normally, the coolant level in the overflow plastic container is at the “low” level when the engine is cold. If below the “low” level, we add coolant from the cockpit lazarette, but not before.

## 14. Entertainment Systems

Highlights

- Fusion MS-RA205 stereo located at the nav station. Satellite Radio & Bluetooth. Speakers in Salon and Cockpit.
- Large TV Screen & DVD Player.
- When shore power not available the Inverter will provide power to the TV/DVD.



Fusion Stereo: Satellite Radio & Bluetooth.



TV/DVD

## Details

### Fusion Stereo:

**Volume control** – The salon and cockpit speaker volumes can be adjusted separately:

- a) Turn the large black volume knob slightly either direction. The two volume zones will show in the display – “CARRE” is the Salon.
- b) Press the center of the volume knob repeatedly until the volume you want to adjust is highlighted by vertical bars or both are highlighted if you want to adjust both together.



**Mode Selection** – There are four modes; AM Radio, FM Radio, VHF and Aux. Press the Arrow button on the upper right of the volume knob to change modes.

**Bluetooth** – Select the AUX mode. Turn on your device's Bluetooth and connect to “Fusion MS-BT100”.

### TV/DVD player:

The 32 inch TV is located in the salon on the starboard aft cabinet by the freezer. The separate DVD player may take a few moments to boot-up. It plays DVD and BluRay discs. It does not play 4K movies. There is a selection of movies above the TV in the upward cabinet.

If not connected to shorepower, the Inverter will need to be turned on. Either way make sure the AC Outlets breaker on the AC/DC Panel is flipped on.

## 15. Fuel

### Highlights

- The fuel level indicator is at nav station on the right side of the AC/DC Panel. Press the right side of the black selector ring once for Fuel 1 (Port Tank) level and again for Fuel 2 (Starboard Tank) level.
- Fuel fills are aft on the inboard side of each sugar scoop.
- Each fuel tank holds 53 gallons (200 liters).



### Details

The fuel tanks are located under both aft staterooms. Consumption rates are listed under “Engine” above.

**Fueling:** Fill until the *gauge* reads just below full then carefully top off, reducing flow and listening closely for the pitch sound to start rising then stop filling immediately. We find these guidelines helpful: we don't fill too fast, track how many gallons are in, and keep your ear to the fill to prevent overflow.

## 16. Generator / Air Conditioning

### Highlights

- The generator provides power to both air conditioning circuits and house loads by providing both 120v and 240v. It can charge batteries, make hot water and provide power to outlets.
- Shore power does not power the air conditioning units.

- Generator is in the port bridgedeck locker (in front of the salon window).
- Primary circuit breaker located in the same locker on the inboard side. Always left ON, rarely trips.
- Generator draws diesel from the port fuel tank.
- There are five A/C units and zones with controllers (thermostats) – (2) Salon, port hull, starboard hull forward and aft.

## Generator

### Highlights

To operate the generator, you will need to first identify the control panel in the port hull cabinet immediately forward of the stairs at chest level. In the upper left portion of the cabinet, you will see control box with a sticker above it that says generator start/stop, and the control box itself says Panda iControl. This is the panel you will use to start and stop the generator. Next, you will need to identify the Ship Power toggle switch. This is in the same cabinet, more toward the middle of the cabinet right below the shore power toggle switch. The generator should never be stopped or started when under a load. To ensure that the generator is not under a load you will first ensure the Ship Power toggle switch is turned off before starting or stopping the generator. (Note: you should find that the ship power switch is turned off when you board the boat, however, this may not be the case. The ship power switch should only be turned to the “On” position when the generator is running and being used. Otherwise, the switch should be in the off position while you are using battery/shore power.” **The generator should never be used when on shore power.**

### Details

#### Starting the Generator

1. Locate the ship power toggle switch and ensure it is turned to the “Off” position.
2. Locate the generator control (start/stop) panel which is in the port hull cabinet immediately forward of the stairs at chest level (see photo on right).
3. Turn the generator control panel ON by pressing and holding the upper left button for 2 seconds. A “service interval has run out” message in the display will turn off in 10 seconds.
4. Start the generator by pressing and immediately releasing the start/stop button. You’ll hear the preheater and fuel pump run for several seconds then the generator will start.
5. Now turn the ship power toggle switch to the ON position
6. Once the generator is running and the Ship Power toggle switch is in the “On” position, you will go to the main panel in the salon and turn on the equipment you need i.e. water heater, battery charger, or power outlets.



## Air Conditioning

### Highlights

The air conditioning is rarely if ever used by charter guests because the NW weather is generally not hot enough to warrant it and the cool water temperature even in the summer keeps the hull cabins pleasant even on the hottest days. To run the air conditioning unit, you will first go through all the steps for running the generator, but before using any of the equipment like the water heater, or batter charger, you will start the air conditioner instead. If you attempt to start the air conditioner while also running the water heater or batter charger, you run the risk of tripping the main breaker.

**Details**

Starting Air Conditioner

1. To start the air conditioner, first follow steps 1-5 above and get the generator running.
2. Next, Flip ON the Generator/Air Cond secondary breaker (see photo on right) located in the same cabinet.
3. Now locate the cabinet containing the air conditioning pumps and units circuit breakers panel located in the port hull cabinet immediately forward of the stairs at thigh level.
4. **These breakers are always turned OFF when the A/C is not in use.**
5. Once you open the cabinet locate the pump breakers on the right side of the panel. **THESE PUMP BREAKERS MUST BE TURNED ON BEFORE THE INDIVIDUAL CONDENSER BREAKERS!!**
6. Turn on the PUMP breakers
7. Now, taking a 10 second break between flipping each switch, turn on the remaining breakers. It is very important to turn on all of the remaining breakers in 10 second intervals to avoid straining the generator and tripping the primary breaker.
8. Adjust the thermostats in each zone to the desired cooling temperature. Never below 70 degrees (or condensers will freeze and fail) and make sure any unused zones are turned OFF on the A/C control panel in each room.

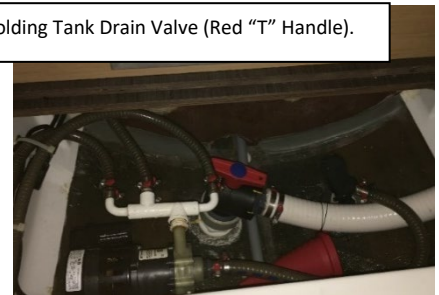


17. Heads and Holding Tanks

**Highlights**

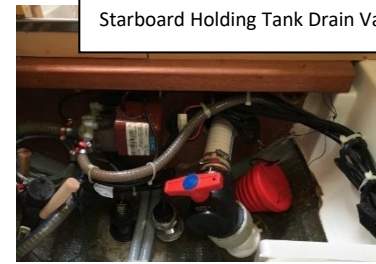
- **Second flush for solid effluent.**
- Both toilets are electric raw (salt) water flushing.
- No Y-valves – the toilets flush directly into the holding tanks.
- Holding tanks are gravity draining. The through hull drain valves are located under the floor boards in each hull as follows (see photos on right – valves are open when handle is parallel to the white hose):
  - a) Port Hull – immediately outside of the head door.
  - b) Starboard Hull – immediately in front of the forward berth.
- Open/Close the red “T” handle on the valves. Valves are open when handle is parallel to the white hose and closed when 90 degrees to the hose.
- Each holding tank has a level indicator located in the heads (see photo below). Both indicators are above the sinks at ceiling level.

Port Holding Tank Drain Valve (Red “T” Handle).



Starboard Holding Tank Drain Valve (Red “T” Handle).

Holding Tank – Level Indicator.





### Details

Rule of the Sea: *The person who clogs the head, unclogs the head.* Experienced sailor rule: *To avoid the "rule of the sea" above, nothing goes down the toilet that hasn't been digested.* Please place TOILET PAPER and feminine products in the waste basket, plastic bag, or ziplock...makes for a much more pleasant cruise!

For *liquid* effluent:

- 1 - use the toilet.
- 2 - depress the "drain" side of the lower rocker switch to pump out the liquid.
- 3 - Briefly toggle it to "fill" to rinse, then back again to "drain" to pump out.

For *solid* effluent: "**Remember the second flush**"

- 1 - Depress the "fill" end of the lower rocker switch to bring in a quart or so of water.
- 2 - Use the toilet.
- 3 - Depress the "drain" switch until the solids are evacuated, then press "fill" and "drain" as above. Sometimes the "flush" upper rocker switch is needed to remove everything.

### Holding Tanks:

The holding tanks are approximately 20 gallons each. One is located above each toilet. There is no Y valve. The holding tanks are above the water line. Each tank has a deck fitting for use at a pump out facility. Alternatively, the large red handle seacock, accessed under the floor boards as described in "Highlights" above, will evacuate the holding tank by gravity.

We urge you to use shoreside facilities for solid effluent when moored in shallow bays and marinas where solid effluent has a measurable adverse impact...or the holding tank. Be aware that discharge in deep water is permissible in Canadian waters, but USCG regs prohibit such discharge in US waters. Some sailors maximize capacity by designating one head for liquids only (with the seacock open) and the other for solids only (with the seacock closed.)

Please forgive us if the holding tank gauges are inaccurate or show partially full upon boarding. Due to the nature of their immersion, these gauges can be inaccurate and foul about 10% of the time. If you find that to be true, please let our staff know upon your return so we can clean them for the next guest.

If the holding tanks are overfilled, effluent will overflow through the vents, which gives foul odors and dirties the hull.

Depending upon the number and type of flushes above, and the number of people aboard, each holding tank may hold about one to two day's usage. Designating a "liquid only" head extends that to 3 days or more.

## 18. Heater

### Highlights

- Webasto hydronic/forced air heat.
- Master "System Heat" switch and Thermostat located at the Nav Station in the salon.
- **NOTE:** The single large black thermostat at the nav station (see photo above) controls hydronic heating system. The five smaller chrome bordered thermostats found in each of the heating zones are for the separate A/C system that runs off the generator.
- There are five individual fan switches to control heat flow – 2 in the Salon and 1 each in the staterooms.
- Turn on the cabin heater as follows:
  - a) Flip on the "System Heat" switch. After flipping the switch, you will hear the diesel heater turn on.



- b) On the Thermostat located to the right of the System Heat switch, slide the switch at the bottom to HEAT and select desired heat setting (70-75 deg best) using the arrow buttons to the right of the temperature display.
- c) **NOTE: The fan heater blowers will not run until roughly 15 minutes after turning on the system – the water in the system needs to reach operating temperature first.**
- d) Turn on the fan switches for each zone you want heated – select Low or High fan speed. Check the zones you don't need to heat to make sure the fan switches are off.
- e) NOTE: Make sure the louvers on the heater outlets are open if you want heat and closed if not (see photo of louvers on right).
- f) If not on shorepower, remember that the heater and fans use considerable battery power so monitor the house battery voltage closely. We usually turn the heater off at night while sleeping.
- g) Please check the (5) fan locations to ensure there is nothing blocking air flow.



### Details

The Webasto thermostatically controlled hydronic/forced air heating system draws from the port diesel fuel tank. In our waters, we use the heater on cool evenings or to take the chill off in the morning. We normally turn off the heater at night to sleep cool and to avoid the clicking sound of its electric fuel pump and save battery power if not on shore power.

## 19. Lighting

### Highlights

- Flip on the CABIN LIGHTS breaker on the DC panel at the nav station.
- Salon and Cockpit light switches are located on the inboard face of the galley cabinet next to the salon door.
- **Port Hull light switches:**
  - a) Hallway – On the wall immediately forward of the stairs.
  - b) Head – On the forward end of the sink backsplash.
  - c) Berth – On the individual light fixtures.
- **Starboard Hull light switches:**
  - d) Hallway – On the wall immediately forward of the stairs.
  - e) Head – On the forward end of the sink backsplash.
  - f) Berth – On the individual light fixtures and on the wall, inboard side of the doorway.

## 20. Propane

### Highlights

- The solenoid switch is located on the inboard face of the galley cabinet adjacent to the salon door.
- There are two large steel propane tanks in forward cockpit locker.
- For safety, we turn off the solenoid after stove use.

### Details

We have two steel propane tanks under the forward cockpit lazarette seat, vented to the outside for safety. Each tank normally lasts 4 weeks. The San Juan Sailing staff weighs these tanks weekly to assure that you don't run out. If one tank empties, there is a spare for your convenience.

Troubleshooting: If the stove won't start, check a) propane tank valve is fully open, b) solenoid is on, c) stove knob is first pushed in, then left to the "ignite" position and after flame, is held until the thermocouple heats. If BBQ doesn't start,

check: a) propane tank valve is fully open, b) in-line valve near propane tank is open (parallel to hose), c) Control valve on the BBQ is pushed down at "start" before igniting.

*Caution: propane is heavier than air. If leak is detected, extinguish all flames and ventilate the bilges.*

## 21. Refrigeration and Freezer

### Highlights

- Circuit breaker is on the DC Panel in salon at the nav station.
- We normally leave the fridge and freezer on 24 hrs but they can be turned off at night to conserve battery power.
- Fridge is currently set at "Medium". The fridge tends to run cool and freeze items that are placed on the top shelf. We find "Medium" to be the optimal setting to keep things cool but not frozen. Freezer is currently set on "Max". The freezer will keep items significantly colder than the fridge, but the max setting does not freeze like a standard freezer. Be aware that items may defrost slightly.

## 22. Sails and Rigging

### Highlights

- Full-battened main, 100% furling jib.
- All lines led to the helm station.
- Single line reefing from helm station.

### Details

Kia Orana sails best when kept at least 45 degrees off the wind.

Mainsail: Fully battened main with stack pack.

We have a "stack pack" zippered boom cover and lazy jack system. *No need to adjust the lazy jacks...just unzip and hoist!*

To hoist: The main halyard is normally attached to the sail. If it is not, it is clipped on the mast. To hoist, we release the mainsheet and raise.

Hint: we found this the easiest way to hoist the main is as follows

1 – Assure that the main halyard leads *outside* the boom cover.

2 – With the boom cover top unzipped and the mainsail *directly* into the wind (any wind in the sail makes hoisting and lowering difficult), crew at the mast pulls down on the main halyard while a second takes up the slack through the closed sheet stopper at the helm station. When hoisting gets hard, (normally about 80% up) crew #1 pulls the halyard horizontally out—like a bow string, with cockpit crew quickly taking up slack on each release. Do this repeatedly to raise as high as possible, normally about 95%.

3 – Tension with the helm halyard winch.

When unzipping the stack pack sail cover, move the traveler all the way to the port side and swing the boom all the way to portside. **DO NOT STEP ON SOLAR PANELS** when unzipping the stack pack.

We have trailing tell-tales on the main leech to assist mainsail trim. If they don't trail straight aft when sailing upwind, most likely you need to back off on the mainsail traveler.



This boat sails best with a foot or so of mainsail luff (though sometimes hard to see with the full battens), and the tell tales flying straight.

#### Reefing:

Both reefs are single line jiffy reefs and are pre-rigged.

1 - Release the mainsail halyard to the first ring on the halyard for reef #1 or the second ring for reef #2.

2 - Tension the single line reef moderately, then release the mainsheet. Now fully tension the reef line until the new clew is close to the boom. Then re-tension the mainsheet. (Using this method raises the boom sufficiently above the dodger.)

Note: tuck the extra mainsail foot if you like, but please don't bother with reef ties, which in our experience easily tears sails.

## 23. Showers and Sumps

### Highlights

- Separate shower stall port forward.
- Separate starboard head shower.
- Port transom shower (hot and cold).
- Pump switches in shower stall, no sump or float switches.

### Details

The button operates the sump pump in the separate shower. There is no float switch so while showering, frequently (every 20 seconds/it fills quicker than you think) push the sump pump button to dump the gray water overboard. For hot water, you will get approximately 2.5 showers short showers after running the engines underway for at least 1 hour. You can also get hot water by running the generator and selecting "water heater" on the AC/DC panel. It takes roughly 45 minutes for water to heat.

The transom shower features both hot and cold water. To operate, pull the T handle up. That brings water to the shower head. Turn the T handle left or right to adjust temperature. Depress the spring-loaded top of the shower head for spray.

Note: shower sumps can become emergency bilge pumps if water rises to that level.

## 24. Spares and Tools

### Common spares

Location: Port hull, in lower cabinet forward of the desk.

Contents: oil absorbent pads, fuel filters, oil filter, impeller.

**Tools:** West Marine Shipyard 175 pc toolkit and supplemental tool bag in port stateroom under settee seat.

## 25. Storage

The amount of storage is one of the appealing factors of this model. We found these of greatest use:

### Food:

1 - Salon settee, under the cushions, except the corner has the salon AC unit.

2 - Overhead storage in salon.

- 3 - Above galley counter cabinets. We store quite a bit of food in the cabinets above the refrigerator and freezer.
- 4 - Inside the roving stool.

Clothes: Each stateroom has a hanging locker and drawers that we find adequate. There are clothespins in the Port Head Cabinet for clipping clothes to the lifelines or back deck area – drying purposes.

Fenders: We store them in the starboard forward center chain locker. *Hint*: when lowering them into the locker, leave the line facing up; making for easy retrieval. A fifth black fender is ideal for the “rover” or when backed into a slip. Plus, we like to put the 5<sup>th</sup> fender on the port side of the boat when docked. There is an additional white ball fender that we put on the port side as well to protect against traffic during charter season.

Dock Lines: In the starboard forward center chain locker.

Forward Lockers (with hatches): This space is vast and can store additional fenders, bags, etc.

## 26. Stove and Oven

### Highlights

- The solenoid switch is located on the inboard face of the galley cabinet adjacent to the cockpit door.
- There are two large steel propane tanks in forward cockpit locker.
- For safety, we turn off the solenoid after stove use.
- 3 burners, depress knob, turn left, use hand sparker.

### Details

The three burner propane stove must have the propane solenoid switch on to operate (switch located on the inboard face of the galley cabinet adjacent to the cockpit door).

We suggest that whenever you turn off the stove burner, you shut off the propane solenoid, which for safety shuts off the propane flow in the cockpit.

To light a stove burner, *depress* the knob, turn ¼ turn to the left and light with the provided sparker. Note you don't need a flame...just the spark. Hold for a few seconds to heat the safety “thermocouple”, then release. Turn the knob to the *left*, counterclockwise, to go from “high” to “simmer”.

To light the oven, set the knob to the desired temperature. Open the oven door. While kneeling, depress the cylindrical button on the stove panel. This bypasses the thermocouple and allows propane to flow to the oven burner. Ignite the burner with the sparker. Keep the button depressed for about 30 seconds before slowly releasing, watching the pilot to make sure it remains lit.

## 27. Water

### Highlights

- Water pump breaker is on the DC Panel at the nav station in the Salon. Turn off when not on board.
- One 79-gallon water tank. Water gauge is located next to the VHF above the nav station. “Nav Instruments” needs to be turned ON to read the water level.
- Deck fill is port forward.

**Details**

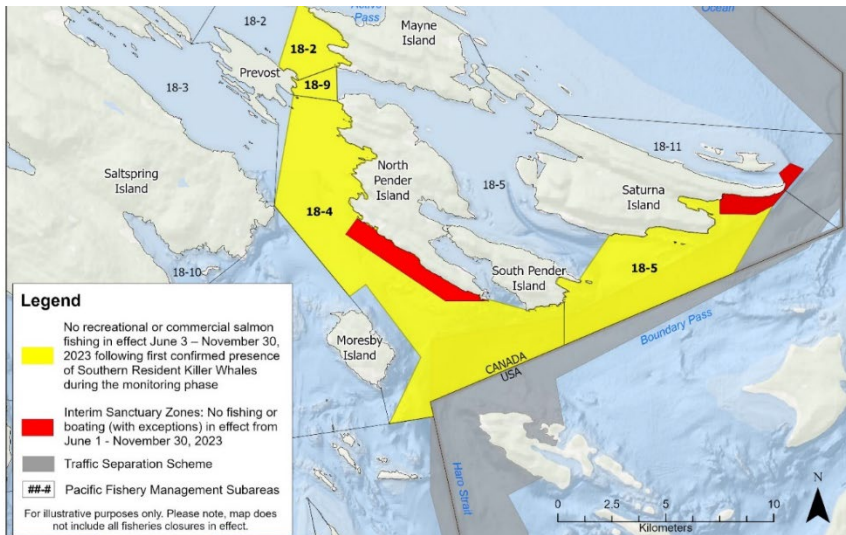
The water tank is in the starboard forward center chain locker.

Hot water is produced by 3 methods:

1. **Generator:** Generator needs to be turned on and “water heater” switch on AC/DC panel needs to be turned on. It takes roughly 45 minutes to produce hot water.
2. **Engine:** It takes about an hour under solid load to heat the hot water tank. Running the engine at idle won't heat the water.
3. **Shorepower:** If hooked up, turn on the “water heater” circuit breaker on the 120V panel at the nav station.

**28. Being Whale Wise**

Our local Killer Whales are a wonderful part of the local family. But they are having a difficult time surviving due to declining salmon runs. These whales use echo location to find and catch their food. Therefore, noise pollution from boats and ships make it harder for them to thrive. In an effort to decrease human impact both the Canadian and US governments have implemented rules. We provided you a summary of these rules in the packet you receive when you arrived and there is more information in section 10 of the white reference book onboard Kia Orana. In general, stay at least 400 yds. away from the whales. Sometimes they come to you, if this happens shutdown the engine and turn off the instruments (assuming this is safe to do). They can hear the pings of the depth sounder – this is why we have you turn off the instruments.



In Canada they have gone a step further by creating some zones where boats are not allowed. This further improves the environment for the whales. The red areas in the diagram below show these zones.

And here is an example of what they look like on Kia Orana's chart plotter(s). The red lines have been added to help point out the dashed lines, which are what you will see on the plotter.

Note this is just to the west of Bedwell Harbour, so on your way in or out of there be sure to avoid this area.

