

## **Welcome Aboard *ORCA*!**

We are delighted to welcome you aboard *ORCA*, our new **2023 Jeanneau Sun Odyssey 380**. We hope you'll find our boat as enjoyable and pleasurable as we do.

As you may already know, **Orcas** (or killer whales) are iconic symbols of the Pacific Northwest. Their grace and beauty are truly captivating, and we hope you'll have the opportunity to encounter a pod of orcas during your journey through the San Juan Islands.

**Our *ORCA*** offers spacious accommodation. With over 6 feet of headroom below, there's plenty of space for everyone in the salon and three cabins. The cockpit is ideal for sailing and relaxing while in harbor or at anchor. Lower the swim platform to extend the space even further! Additionally, our swing-out BBQ allows for *delightful* meals shared with friends and family.

We value our guests' *experiences* and welcome any feedback or tips to enhance the *boat* or improve these notes. Feel free to reach out to Bruce at 206-321-6202 or email bobchinookllc@gmail.com with your comments.

We eagerly await hearing about your adventures aboard *ORCA*!

**Happy sailing!**

Judy Billman and Bruce McLachlin

## ORCA highlights include:

- 3 cabin / 2 head layout sleeps 6 in rectangular twin-sized staterooms.
- A well-lighted forward stateroom with double doors opening to a centerline twin berth; ensuite head and shower with hanging locker.
- Two comfortable aft cabins include twin-sized beds sharing a head/shower to starboard accessible directly from the main salon.
- 2 x 100aH AGM Batteries for plenty of 12v DC power at anchor.
- High Performance fully battened Main.
- Easy handling roller furling genoa.
- Harken Primary Winches in the cockpit control the German Mainsheet and Genoa Sheets.
- All other lines are led aft to two cabin top Harken winches.
- A Bow Thruster to make docking easy.
- Electric windlass with remote control at the bow and a chain counter and another control at the starboard helm station.
- Raymarine Axiom+ chartplotter at the starboard helm integrated with all navigation electronics including Radar and AIS.
- Raymarine p70s Autopilot and i70s Wind instruments are located at the port helm.
- Spacious cockpit with ample seating for all aboard with dropleaf table in the center.
- Outfitted for charter guests to have a relaxing, fun-filled sailing vacation with family and friends:
  - Cockpit expanding Swim Platform.
  - Galley equipped for gourmet cooking (two burner stove, oven, broiler, fridge, and freezer) and a propane BBQ accessible from the swim platform.
  - Cockpit cushions with seatbacks.
  - Iverson Design Dodger, Bimini & Connector for sun protection and to keep you dry on wet days.
  - Fusion sound system with Bluetooth, AM/FM radio, cockpit speakers, and audio controls in the cockpit on the chartplotter.
  - Google Fi - 5G Wi-Fi with onboard router. This is not like fiber optic at home but provides very good speed and connectivity wherever cell service is present.
  - There is a Scanstrut tablet mount at both helms for holding your iPad or tablet at both helms for ease of chart viewing while standing.

For a good visual walk through of the interior and systems on a sistership Jeanneau Sun Odyssey 380 see this YouTube [video review from Performance Boating in Australia](#). Note; some options on the video are not onboard *ORCA* such as the teak cockpit table.

Although we are animal lovers, we want to keep *ORCA* allergy free for all future guests, please no pets onboard.

And please do not smoke anything on board.

- Thank you for your cooperation with this.

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# 1. VESSEL SPECIFICATIONS

## SPECIFICATIONS

Overall length without bowsprit	11,22 m	36'9"
Overall Length with bowsprit	11,75 m	38'6"
Hull length	10,77 m	35'4"
Waterline length	10,71 m	35'1"
Beam	3,76 m	12'3"
Displacement light load with deep draft keel	6 896 kg	15 203 lbs
Standard keel draft	2,00 m	6'6"
Standard keel weight	1 810 kg	3 990 lbs
Shoal keel draft	1,56 m	5'3"
Shoal keel weight	1 972 kg	4 348 lbs
Lifting keel draft	1,32-2,70 m	4'3"- 8'10"
Lifting keel weight	1 607 kg	3 543 lbs

Fuel capacity	130 L	34 US gal
Water capacity	330 L	87 US gal
Fridge capacity	160 L	42 US gal
Holding tank capacity	80 L	21 US gal
Standard mainsail horizontally-cut in High Strength polyester	35,10 m <sup>2</sup>	378 Sq ft
Furling 110 % genoa in high strength polyester	28,30 m <sup>2</sup>	317 Sq ft
CE category	A8 / B8 / C10 / D10	
Architect / Designer	Marc Lombard Yacht Design Piaton Bercault & Co Jeanneau Design	



## HEADROOM

Forward cabin	1,92 m	6'3"	Galley	1,97 m	6'5"
Aft cabin(s)	1,97 m	6'5"	Aft starboard head	1,86 m	6'1"
Companionway	1,94 m	6'4"	Forward head	1,82 m	5'11"
Saloon	2,01 m	6'7"			

• Fridge 160 L / 42 US gal



**Jeanneau Sun Odessey 380** performance cruising sailboat is a very complex machine. Although there are elements of commonality between all sailboats, a myriad of specific choices goes into the construction and equipment of any boat. Whether you're an experienced sailor or newer to the game, you'll benefit from taking some time to read these notes ahead of your charter.

**Thank You for taking the time to read these notes!**

**Two symbols appear throughout this guide:**



Indicates a safety-related hint or caution.



Describes a helpful hint or boat quirk.

## 2. EMERGENCY/SAFETY EQUIPMENT

**Fire Extinguishers** - There are four USCG approved BC marine rated fire extinguishers onboard. They are located:

1. Under the top step of the companionway.
2. Inside the starboard aft cabin locker.
3. Inside the port aft cabin locker.
4. Inside the forward cabin locker.

**If you have a fire at the stove** - turn off the gas solenoid switch inside the left cabinet door below the sink. This will kill the propane coming to the stove and allow you to put out the fire with an extinguisher if needed.



**If there is a fire in the engine room** - Do NOT open the companionway engine room access nor either of the aft cabin side hatches as it will introduce a tremendous amount of oxygen to the fire. Instead, locate and pull out the round black plug on the inboard wall of the port cabin, **behind the bi-fold door** and shoot the fire extinguisher through the hole into the engine room.



Help to prevent fires by turning the propane solenoid switch off when not using the stove or BBQ while not in use. Refrain from having open flames below, in the cockpit and on deck.

**Hitting a Log or Running Aground** - In case of a log hit or running aground, immediately check for leaks in the bilge and see if the bilge sump pocket below the table is filling with water. Next, Lift the floor boards and check for cracks in the fore and aft sections of the bilge particularly at the stringers where the keel attaches to the hull and check all keel bolts (this is below the salon table). Check both rudder posts in the event of a log strike or backing into something with a rudder. Once you are sure no water is entering the hull, contact **San Juan Sailing at 800-677-7245** and proceed to the nearest harbor to have a professional diver check the hull, keel, prop, prop shaft and rudders. Report any and all groundings or log strikes to San Juan Sailing regardless of the severity. Normally nothing is broken and the boat will be fine but we would like to log any and all incidents and have the San Juan Sailing diver double check back at the base at the end of your vacation.

**Leaks** – It is rare that a vessel will just start to leak but if there is a leak make sure the automatic bilge pump is always left in the “on/ auto mode” indicated by a red backlight on the bilge pump icon on the 12v panel. The switch on the panel is a 3-position switch. When you see the white background it is completely off, touch the switch once and it turns red (on/ auto mode), touch it again and you’ll see a green “on” in the lower right indicating the “on/manual override mode”. Note the green “on” light will also come on if the bilge pump in “on/ auto mode” and it senses water in the bilge and automatically comes on. If there is a leak, check to ensure the automatic bilge pump is

running, you will hear the pump running and there will be a green light on the bilge pump icon on the 12v panel.

Depending on the severity of the leak, use the hand bilge pump in addition to the auto bilge pump to stay ahead of incoming water until you can get it temporarily repaired.



Behind and left of Port Helm



Inside Starboard Cockpit Locker under the hatch

The manual bilge pump control is located behind a access cover just inside the port aft mooring cleat behind the helm. To use the manual bilge pump,

- Open the access cover to expose the manual bilge pump.
- Find the pump handle on the underside of the hatch of the starboard settee locker.
- Insert the handle into the pump socket.
- Pump the lever up and down.

The manual pump is a dual-action that expels water with both the up and down strokes. Both the auto & manual pump intakes are located under the salon sole about 2 feet aft of the mast compression post in the sump pocket. The deck plates either side of the salon table is where to visually check the sump pocket.

Once things are stabilized, work to determine the source of the water. Check the dripless prop shaft seal located in the aft starboard cabin inboard side of the bunk flat. Check the through hulls, there is a diagram showing the location of the thru hulls in the notebook. There are wood plugs zip tied to each of the lines above the through hulls and a rubber mallet in the canvas tool bag should you need it.

Other sources of leaks could be:

- Fresh water system
- Engine exhaust system – cooling water side
- Rainwater leaks – these are rare but if you have a window or port leaking, please let us know.

**Check freshwater system** - If the freshwater pump is on and running (you will hear the pump at the salon port side settee area and will see the green “on” light in the lower left of the FW Pump Icon at the 12v panel), then a tap is open or maybe a leak in one of the lines or line fittings.

**Check engine** - raw water-cooling system and engine exhaust system. The engine uses seawater to cool with an inlet in the fwd port side of the engine compartment. This seawater then moves up and aft to the sea strainer in the upper aft port corner of engine compartment and on to the impeller on the engine’s lower left side before going into the heat exchanger.

Check this raw water intake system for leaks. On the aft upper port side of the engine is the water exhaust system where there is a mixing elbow off the back side of the heat exchanger that mixes warm water and exhaust. This then passes through a water muffler (grey plastic box forward of the driplless shaft seal) then exits through a large diameter hose at the aft port hip of boat. Check this engine water / exhaust system for leaks.

**Steering Failure** - If the steering system fails there are 2 backup systems as follows:

1. Autopilot
2. Emergency Tiller

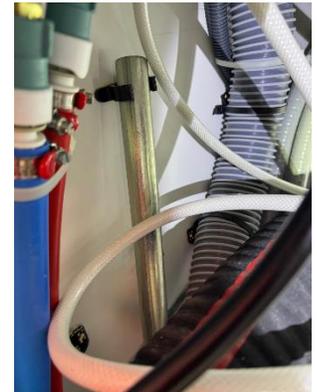


Manual Bilge Station and Emergency Tiller

The auto pilot drives the port side rudder quadrant directly. You can see the RAM at the fwd outboard side of the aft port lazarette. A tie rod connects the port and starboard rudders, so they work in unison. If the manual steering from the steering wheels fails, use the auto pilot to steer the boat until you get into a tight quarter maneuvering situation like docking or anchoring, then use the emergency tiller.

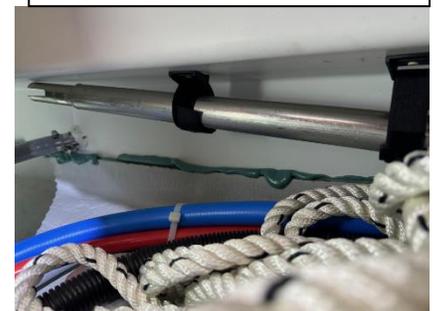
When in a tight quarter maneuvering situation disengage the auto pilot by hitting **STBY** (Standby) and manually steer using the emergency tiller until tied up. Insert the

emergency tiller with the short tiller arm facing aft. Never try to steer with the emergency tiller if auto pilot is engaged. **Auto pilot must be in standby mode when manually steering with either the wheels or emergency steering.** You will want to reduce sail or power down when using this tiller since the rudders are large and the emergency tiller is small, and it is a bit of load at higher speeds. The hydraulic Autopilot RAM is much better at handling a load.



**The emergency tiller** - is an L-shaped pipe that is approximately 1-1/2' x 3-1/2" long located inside the port aft lazarette, clipped to the back of the transom it extends up from the spare anchor and then extends horizontally to the center behind some vent hoses. To use the E-Tiller fit it on either of the two rudder posts which are accessed through the "Jeffa" caps at behind each helm on deck. The aluminum caps can be removed with a winch handle. The emergency tiller should only be used in tight quarter maneuvering situations i.e. Docking, anchoring, mooring.

Emergency Tiller in the port lazarette viewed to port and aft Clipped to Transom Vertically.

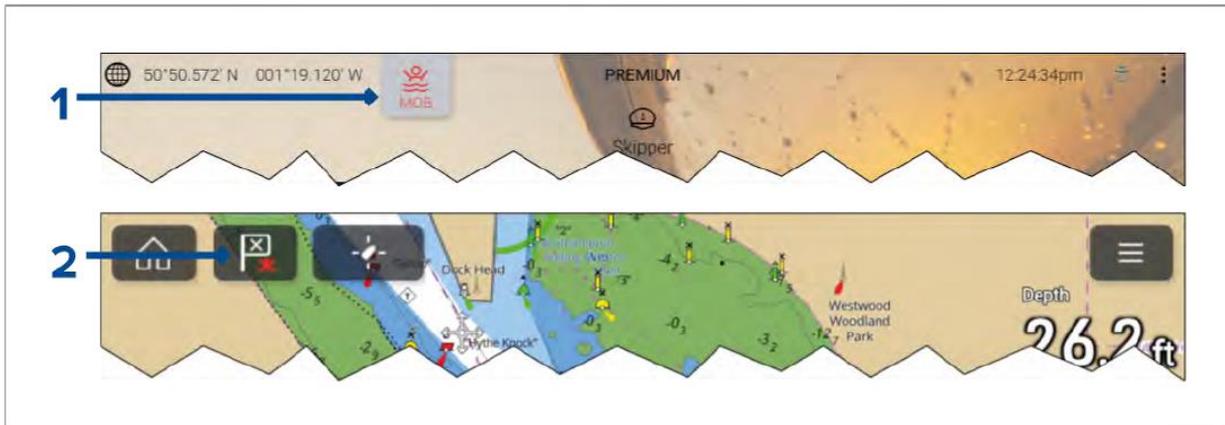


Emergency Tiller in the port lazarette as viewed to starboard and aft Clipped to Transom horizontally.

**Emergency Equipment** – The Electric Emergency Flare, Orange SOS Distress Flag, Emergency Foam Hole Plug and Airhorn are under the nav table at the nav station in a bright green mesh bag.

## Crew Overboard –

1. Throw the white type IV horseshoe to the person in the water.
2. **Then select the MOB button on the chartplotter** to mark the MOB position. The MOB alarm is activated using the MOB icons.
  1. The MOB alarm can be activated by pressing and holding on the MOB icon on the Home screen.
  2. The MOB alarm can also be activated by pressing and holding on the waypoint / MOB icon located at the top of all MFD apps (Multifunction Function Display).



- an audible alarm is sounded which is repeated every 30 seconds until the alarm is cancelled.
- a MOB Databar providing Bearing and range to the MOB, and elapsed time since MOB was initiated, is displayed along the top of the screen. The Databar persists across apps and the Homescreen and remains until the MOB alarm is cancelled.
- a MOB warning is displayed in the bottom of the screen, which requires acknowledgement.
- the Chart app is placed in a special MOB mode to help you navigate back to the point your vessel was at when the MOB was initiated.



### Recall Skipper's Meeting

Then use one of the procedures discussed in the skipper's meeting to get back to the person.

**Use the Life-Sling mounted on the port side stern rail to recover the person.** The Life-Sling on the Port rail is an ideal tool to get the person to the swim platform in the down position. The swim platform also has an integrated ladder that can aid in a rescue. There is also a safety reboarding device tethered to the port transom with an orange line that can be used in the event of an accidental fall and the swim platform cannot be lowered.

**Tools -** In the first and second side lockers of the starboard berth. There is a well-stocked DeWalt black canvas grab bag of tools and an extensive DeWalt tool kit. There are additional tools in a clear plastic totes in the starboard salon settee locker. See the Storage Section for an overview.

### 3. TIPS & TRICKS FOR ORCA

Being a recently commissioned, brand new boat, we have tried our best to work out any issues prior to your charter. If you find anything during your charter that we can improve on, please let us know so we can make updates for future guests.

- **Twin Rudders** – Twin rudder boats behave significantly differently from single-rudder boats when maneuvering under engine. It can take some practice to get used to. The main reason for the difference is that the rudders are not in-line behind the prop. When the boat is stopped, engaging the engine in forward gear with rudders turned does not give a “kick” of the stern. The boat needs established water flow across rudders to initiate a turn.



There is a "lag" between revving the engine and feeling the rudders beginning to work. This lag can be disconcerting at times (truly nothing happens to the steering for a few seconds until there is water flowing across the rudders). In practice, this means you should not stop during the approach because without motion you'll lose steering control, and it will take more time to gain it back than in a single-rudder boat.

To correct for this, we suggest that you approach a little "livelier" than on a single-rudder boat and take the speed off by reversing when you are closer to the dock. **ORCA has a right-hand screw thus in reverse she walks to port.** Use this to your advantage when you stop the vessel or back up but know it will work against you when trying to get the stern to starboard.

Note, *ORCA* will pivot swiftly around her keel. When approaching a dock in the forward motion a good approach is at a 45 degree angle and then “pivot” the stern onto the dock.

**Dual rudders + Kelp/Weed** - Seaweed will get stuck on the shaft in the gap between rudders and hull and can be difficult to remove.

We will first try backing down to free the weed and if that fails, lower the swim platform to clear larger bits by hand. The boat hook can help a bit but can cause damage as well so be careful if you are using the boat hook.

Clearing by hand while moving can be cold and challenging. It is better to stop the boat if under power and clear the weed. Best to have a lifejacket on as well when doing this.

- **Bow Thruster** - The Bow Thruster is there to help in low-speed maneuvering situations. The engine must be running before the bow thruster can be started/engaged.

Press both "ON" buttons together to enable the bow thruster. The Thruster ready light will go solid green to indicate it's deployed/lowered.

 The thruster will timeout and power-down after roughly 5 minutes if unused, this can be an issue when coming into dock. This can be overcome by engaging the thruster periodically when maneuvering.



## **BATTERY MONITOR**

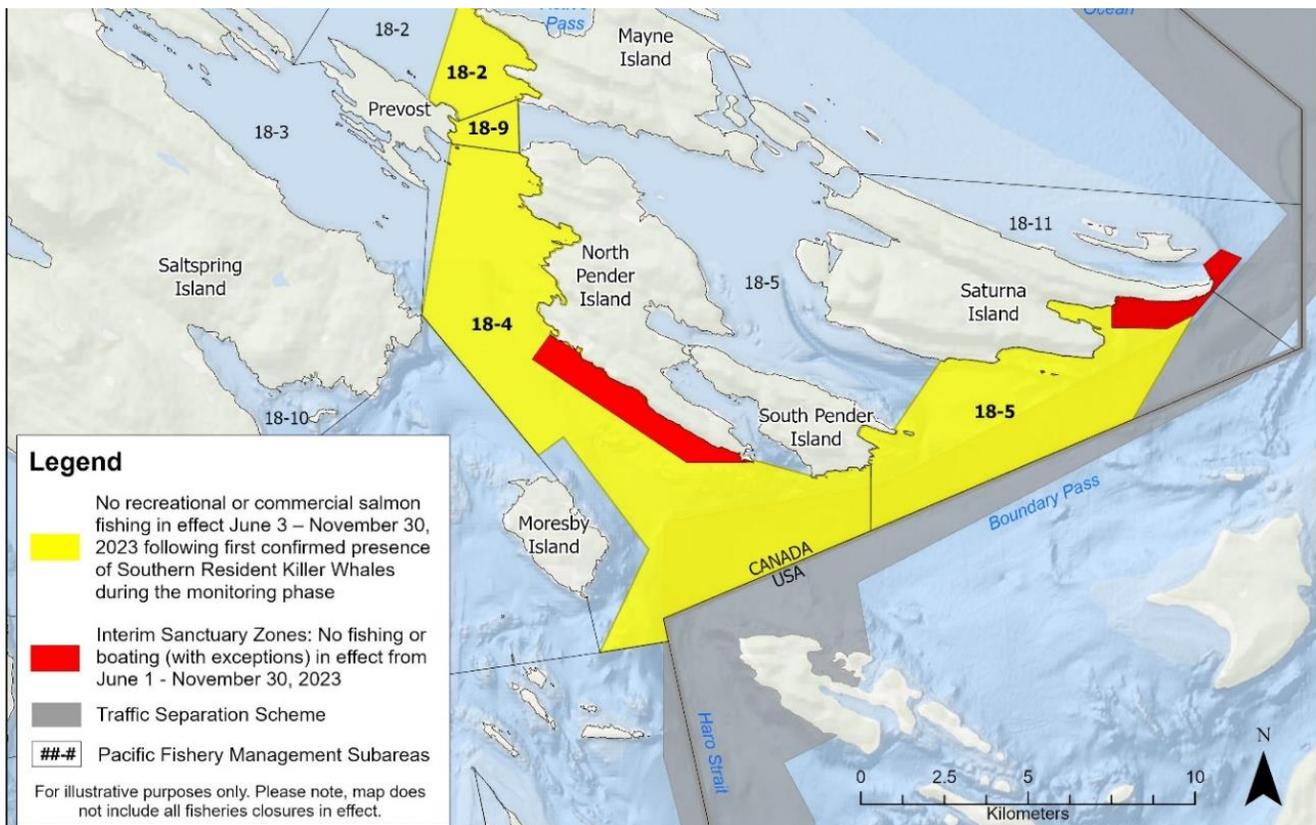
The Domestic (domestic) battery system is a 100 aH AGM bank. As such, it is best to keep the discharge above 40%.

To check the status of the batteries. Go to the Navicolor display located above the VHF in the nav station. Press the tactile power switch to the left of the display. Touch the battery Icon in the lower right and touch the battery bank you wish to monitor.

Note there are 3 battery banks. Domestic, Engine start, Bow thruster. The Domestic bank monitor also shows amperage draw. We try to draw under 10 amps if on the hook and as such only need to run the engine at most once per day to recharge. If you are pulling more than 10 amps while at anchor you may need to run the engine twice per day, once in the morning and once at night. There is a 125 amp high output alternator that when engine RPMs are at 1200-1300 will charge at a +85 amp rate.

## 4. BEING WHALE WISE

Our local Orcas 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 makes it harder for them to thrive. To decrease human impact both the Canadian and US governments have implemented rules. We provided you with 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 *ORCA*. In general, stay at least 400 yds. away from the whales. Sometimes they come to you, if this happens shut down 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.

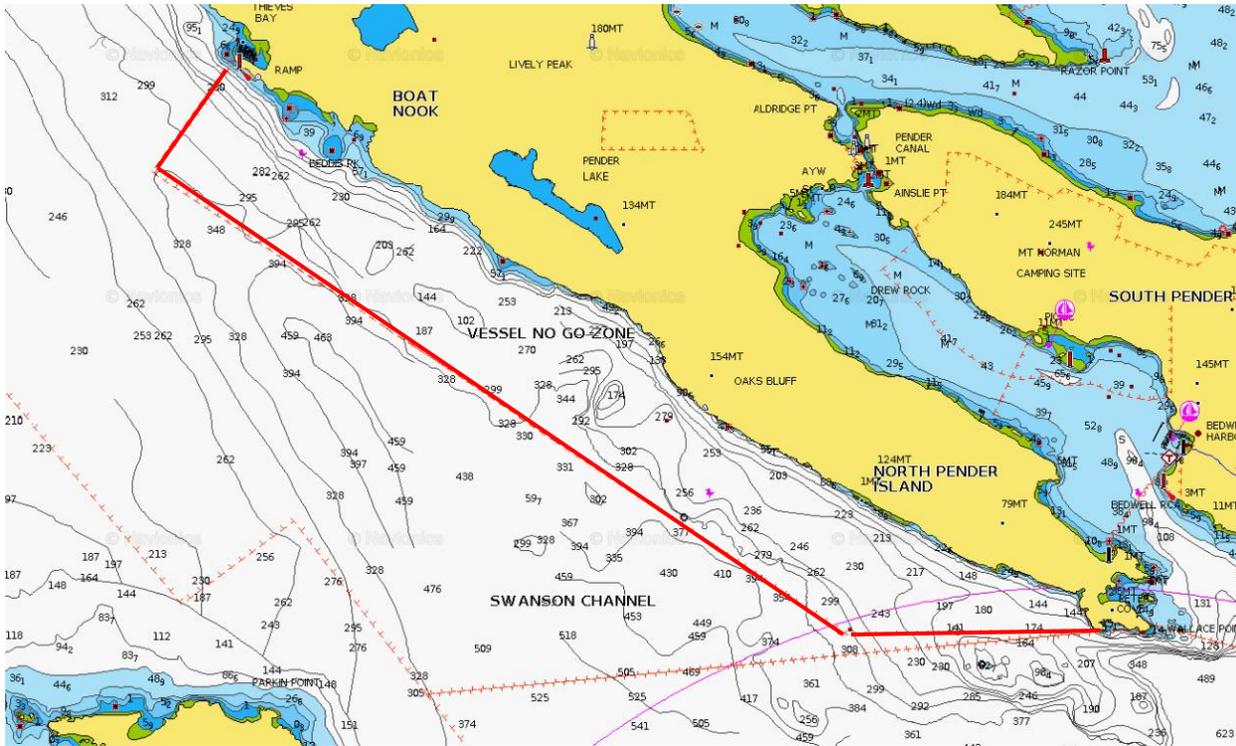


ORCA - Owner's Notes -

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 ORCA'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.



## 5. ANCHORS AND WINDLASS

ORCA is equipped with two anchors, one forward (35lb Delta with 300 feet, (300 #s) of 5/16" High Test chain) and a 21# Fortress in the port aft lazarette locker attached to 50' of 3/8" GGG chain and 150' 5/8" 3-Strand nylon rode.



The primary chain is marked with a 2-foot piece of 1/4", yellow polypropylene line every 25 feet with two 2-foot pieces at 100, 200 and 300 feet. Additionally, the chain is painted individually, in order; Red, White and Blue every 25 feet and together, "Red, White and Blue" at 100, 200 and 300ft.

There is a chain counter at the starboard helm which also provides control of the windlass. Due to the plumb bow we never start to lower the anchor using the cockpit remote as the anchor can swing and cause damage to the stem of the boat. **We recommend lowering the anchor using the remote control at the anchor locker in conjunction with the boat hook to nudge the anchor from the roller.** Once the anchor is in the water and away from the bow, we then use the cockpit remote while motoring astern. Never use the two controls at the same time. When using the cockpit remote always stow the remote control in its cradle and be sure the anchor locker area is clear. When retrieving the anchor use the cockpit remote up until 10 feet remaining, then go forward and use the remote control at the anchor locker. On the final approach be sure the shank of the anchor is coming up in the correct orientation. If it is not, use a boat hook to swivel the anchor into the correct position. Use impulses on the up button to control the swing and carefully bring the anchor to the up and in the cradled position. Once the anchor is pulled snug with the windlass, back it off a bit to be able to attach the chain keeper to the red chain link then pin the keeper lever in place.

Lowering the anchor using the helm controller can be done to track chain-length, ideally with someone on the bow to monitor and advise the helmsman if there are any chain jams or other issues.

The scope used in the islands for full chain rodes is around 4:1. Sustained winds over 25 knots or wind waves require greater scope up to 7:1. If necessary, find a place to anchor that allows for this. If you can get more than 4:1 it is ideal, however, in crowded anchorages in the peak season it may not be feasible. If anchoring with only 4:1 scope be sure you are in an anchorage that is well protected and be sure you are clear of nearby anchored vessels when you and they swing. After you have paid out the suitable amount of chain, pause and wait 1-2 minutes at idle on the engine to see if your bearings are changing. If things look good, put a bit of reverse on to test the stability and set the anchor for the night checking your bearings as you are putting reverse on. If you are not set, retrieve the anchor, and repeat the process.



An easy formula for setting scope; add the water depth on sounder, plus any tide increase expected during the night, plus 6' (to account for the distance from sounder to roller on bow) and take that total and multiply by 4 (example would be 25' of water + 6' of tide increase + 6' = 37' x 4 = 148').

Please note the windlass will not run without the engine running. The anchor windlass receives power from the engine battery. The circuit breaker for the windlass is located in the port quarter berth. The circuit breaker is on when pointed down towards the green dot. Once the windlass is not needed, switch the circuit breaker to off to prevent any unnecessary starting battery drain.

#### LOWERING THE ANCHOR:

- Turn on the circuit breaker for the engine (turn to the right).
- Turn on the circuit breaker for the windlass (turn to the left). The circuit breaker is on when it is pointed down towards the green dot.
- Start the engine.
- Remove the cap from the helm windlass control and counter display and stow the cap in the port cockpit locker mesh bag.
- Unshackle the chain keeper that is holding the anchor secure in the bow roller.
- Reinsert the pin in the closed chain keeper lever to keep it out of the way.
- **Use the boat hook** to nudge the anchor forward while using the windlass remote control to release the chain and lower the anchor.
- Lower the chain with impulses until in the water and past the plumb bow.
- Continue to lower the anchor from either the remote control or cockpit control until desired chain is paid out.
- Secure the chain with the snubber and run out enough chain to take the load off the windlass.  
**Do not anchor with the load on the windlass drum.**
- Set the anchor by reversing at ~1200 RPM for 1-2 minutes and check your bearings.
- For the first 30 min or so check to be sure you are set and turn on the LED anchor light before nightfall.



## ATTACHING A SNUBBER



*The bowsprit makes attaching a snubber challenging.* There are two snubbers in the yellow mesh bag in the anchor locker.

1. **The White Snubber** is a simple bridle attached to the bow cleats and then to the chain with a chain hook and rubber keeper. **However, it can only be safely deployed and retrieved from the dinghy.** There are spare rubber hook keeper straps in the Tape and Velcro box in the starboard salon settee locker.
2. **The Blue Snubber** (shown in red to the right) **can be deployed from the deck** by securing the loop end to the starboard midship cleat, attaching the two fairlead soft shackles to stanchions, securing the Dyneema pendant to the chain with a cow hitch, connecting the two thimble ends of the pendant with the carabiner and then easing the chain and snubber over the bow roller until the snubber takes the load.



### RAISING THE ANCHOR:

- Turn on the circuit breaker for the engine.
- Turn on the circuit breaker for the windlass.
- Start the engine.
- Take in enough chain to retrieve the snubber and put it away.
- Use a careful combination of engine power with the windlass to retrieve the anchor.
- If the anchor is really stuck in the mud, you will hear the windlass slow under the load. Immediately stop the windlass and drive the boat forward to free the anchor.
- With the bucket in the aft port under cockpit locker, wash the anchor and chain as it is retrieved to keep the boat and anchor locker clean.
- Incoming chain can pile up against in the chain locker right below the windlass gypsy. Use a boat hook and push the pile of chain forward every 20-30 feet of chain.
- Once the anchor is out of the water, watch that the anchor is running up with the shank in the correct position, and if not rotate it with a boat hook.
- Slowly pull the anchor up onto the rollers using the windlass, making sure it doesn't swing into the bow.
- Once the anchor is pulled up snug, ease tension off the windlass to hook the chain keeper to the red link.
- Secure the chain keeper with the tethered pin.



• Switch the windlass circuit breaker off to prevent draining the starter battery.

### SECONDARY ANCHOR

The secondary anchor is located in the port aft lazarette. The anchor is secured to 50' of 3/8" BBB chain and 150' of 3 strand nylon rode in the blue milkcrate located on the inboard side of the locker.



 Note the primary anchor uses **5/16" HT chain** paired with a **5/16" gypsy chainwheel** on the windlass. **This gypsy is not compatible with the 3/8" chain** used on the secondary anchor. If you want to use the Secondary anchor on the windlass, the gypsy will need to be changed. The 3/8" gypsy is located on top of the blue milkcrate in a cardboard box labeled "3/8" Windlass Gypsy" and would need to be swapped out with the 5/16 gypsy.

### STERN TIE:

There are times when adding a stern tie to shore around a tree or rock will be needed in very deep anchorages, especially in Desolation Sound and north. **ORCA** is equipped with **350' of floating line on a reel** for stern tying. It is stored in the aft starboard lazarette. The reel can hook on the lower stern lifeline to pay out the line and reel it back in.

## 6. DOCKING

There are **five 5/8” double braided dock lines** on board,

- **two BLACK 30 ft** long Spring Lines, and
- **three BLUE 20 ft** long Bow, Stern and a Spare line.

We really like docking stern in, but this requires a 40’ slip so there is no boat overhang of the dock walkway or in the marina fairway. Stern in allows for easy boarding by just stepping on or off the swim platform and secondly, stern in allows for excellent visibility when docking.

 There needs to be extra care when tying up the boat stern in to ensure there is no movement aft nor to the tie side that can cause an impact with the swim platform or stern of the boat. Use a forward spring line toward the bow to prevent the boat from drifting backward. **And** add an opposite side stern line that secures the boat from moving toward the tie side. This is especially needed when the dock has an added triangular platform intended for a “bow in” orientation as seen in the photos below of Friday Harbor where we tied starboard to. In this situation we had very taut forward spring and port stern lines to hold the boat away from the dock.



 The Webasto Heater Exhaust Vent is located on the aft starboard stern quarter of the boat and it gets very hot. The stainless-steel exhaust port is labeled Webasto and is outboard directly below the stern cleat. Please be aware this is a common location for placement of a starboard stern fender when at the dock or rafted with another vessel. Please check to ensure the stern fenders are not contacting the exhaust port or they will melt and pose a fire risk. There is also a significant carbon monoxide risk to the boat occupants tied to the starboard side if using the Webasto system. We recommend the starboard side be tied on the outside of a raft arrangement to minimize this risk.

## 7. BOW THRUSTER

1. The Engine **MUST** be on to use the bow thruster.
  2. Activate the controller at the helm by simultaneously pressing both “ON” buttons. The panel shows a green light to indicate the thruster is ready to use.
  3. Use the thruster minimally, in no more than 5 second bursts. Continual use will overheat the thruster. This may trip the black circuit breaker button that is located in the bow below the forward berth.
  4. The thruster will shut down after 5 minutes of non-use and need to be restarted from the panel by pressing both buttons.
  5. Most of the vessel maneuvering should be done using the engine with water moving over the rudders.
  6. The thruster is meant to be used to get the bow moving in the desired direction when at very slow speeds or stopped, during your final approach into, or departing from the slip, or in emergency situations to keep from hitting another vessel or dock.
2. Keep the main engine running while using the thruster, to keep the battery in a good charge condition.
  3. Power down the bow thruster before turning the engine off.

Simultaneously press both ON buttons



Black Bow Thruster Reset Button under forward bunk.

## 8. BATTERIES & CHARGER

Battery use management matters when it comes to cruising on boats. We're accustomed to infinite electricity from our utility service at home but when on a boat we must pay attention to our electrical consumption more closely.

There are 4 batteries onboard, 1 x 50 aH Engine start battery, 2 x 100 aH AGM Domestic Batteries and 1 x 100 AGM bow thruster battery.

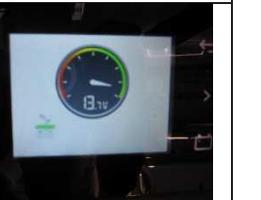
The **Engine start battery** is under the port aft cabin mattress along with the 40-aH battery charger, isolator, backside of the battery switches and high load 12v breakers. Gain access is by lifting up the mattresses and venting and then lifting the forward wooden lid in the berth.

The domestic batteries are under the port cabin bunk. Access is by lifting the mattresses and venting and then lifting the forward wooden lid.

The bow thruster batteries are at the bow under the bunk and are accessed by lifting the mattresses and venting and then lifting the wooden lid.

**Battery Monitor** – The batteries are monitored on the Navicolor touch screen panel at the Nav Station. There is a tactile on/off switch at the center left of the display. Touch the multi-dot icon, then the battery bank icon (Domestic, engine, thruster) and cycle through the display.

There is an Amp Meter on the Domestic Bank only that shows amps used as a red negative number or amps inputted when charging as a green positive number.

Domestic Battery:	Engine Battery:	Thruster Batteries:
Voltage monitor Amp Meter	Voltage monitor	Voltage monitor
		

When you are plugged into shore power and you touch the blue electrical plug icon on the Navicolor display monitor you will see the left side blue dashed lines moving down to the blue lit outlet. This indicates 120v power is coming from shore power to the 120v outlets.

 AGM batteries voltage will stay above 13V when charging and can be discharged 50% from full charge. It is rare you will achieve full charge so plan on 90% charge down to 50% charge thus you have 40% usable amps on the 525 aH Domestic Bank. Approx. 210 aH useable before needing to be recharged. Reading the voltage off the Navicolor is the best way to monitor the batteries.

The electronics, fridge, freezer, and Webasto heating system all have significant effect on battery life. Ideally get the fridge and freezer down to temp while on shore power or while running the

engine. Its more efficient to have a cold frig/freezer to start and maintain the cold under battery power. We typically turn the heating system off at night after closing hatches and getting the boat warm.

### ENGINE / ALTERNATOR CHARGING

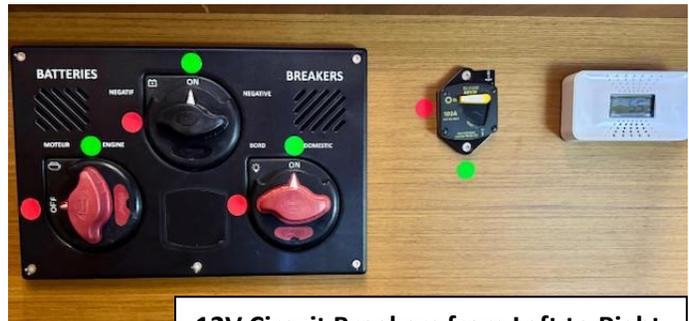
ORCA has an upgraded 125aH alternator for faster charging of the Domestic batteries when the engine is running. Depending on the battery voltage level, the alternator can charge at a rate of 125 amps which can be seen as a positive number on the Navicolor display on the Domestic bank. This means if for example the Domestic battery bank is at 70%, it will recharge in approximately 1.5 hours of run time.

### BATTERY ALARMS

There are no audible battery alarms. Battery monitoring is done visually from the Navicolor display monitor in visual mode only. When the Domestic bank discharges to 11.1v or less there will be an alarm that displays a yellow “explanation point” icon will flash indicating the Domestic bank needs to be recharged.



Turn off the engine start battery breaker when the engine is not running. This is especially needed when leaving the boat because the engine switch is essentially the key to the engine. **If the engine switch is left on someone can simply start the engine and motor away.**



#### 12V Circuit Breakers from Left to Right

- Engine Breaker
- Ground
- All other 12v Breaker
- Windlass Breaker
- Carbon Monoxide Detector

**This is how we leave the breakers when leaving the boat, plus the bilge pump on at the nav station.**

If running the engine only for charging purposes, in order to get the 125 amp alternator to excite and charge properly, push in the red button on the throttle arm to disengage the gear-select and bring the engine up to 1300 - 1500 RPMs. When charging at this RPM you should see a green positive number on the Amp Meter in the range of 125amp down to 75 amps. This is a good rate of charge for the Domestic bank, if it falls below 60 amps you may need to increase the RPM.

## 9. BILGE PUMP

The 12v bilge pump has a switch at the Nav Panel with 3 positions –

- Off
- On / Float Sensor Mode –
  - When we leave the boat, we always leave the bilge pump switch on. (Red and the “pump” and “On” icons are off).
    - On / Float Sensor Mode on boat in this position – and
    - with the “Domestic” Breaker on in the port aft cabin.



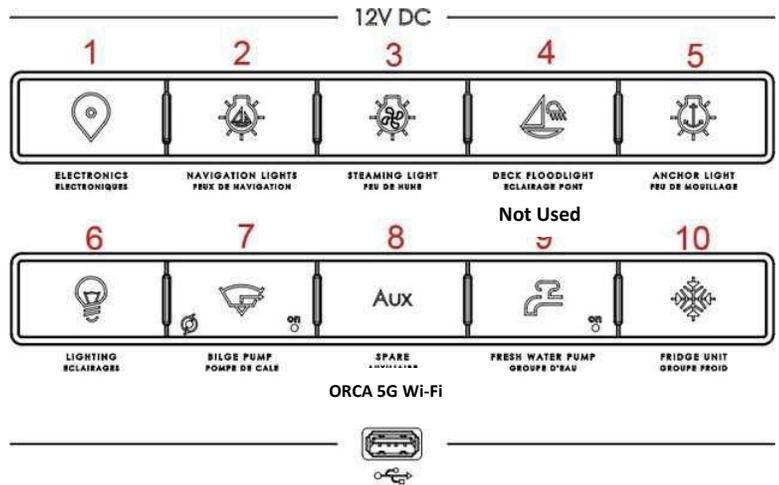
- **On Manual Mode.** To switch to On / Manual Override Mode touch the switch a second time (from off) and listen at the bilge. The left “pump” icon will be red and the “On” icon will be green.
- Touch the switch one more time and the bilge pump will go to OFF white / no backlit mode.



Whether on Battery or Shore Power, **The Bilge Pump switch should always be left in On / Float Sensor Mode** with the Domestic Battery Switch and Black Ground Switch in the ON position. The Battery Breakers are located in the aft port cabin.

### ELECTRICAL PANEL

1. Electronic instruments – Raymarine
2. Navigation lights
3. Steaming light
4. Deck light Switch (**NOT IN USE**)
5. 360° Anchor light
6. Interior Lighting
7. Bilge pump **ALWAYS LEAVE ON (red)**
8. (AUX) = **ORCA 5G Wi-Fi**
9. Fresh Water Pump
10. Refrigerator

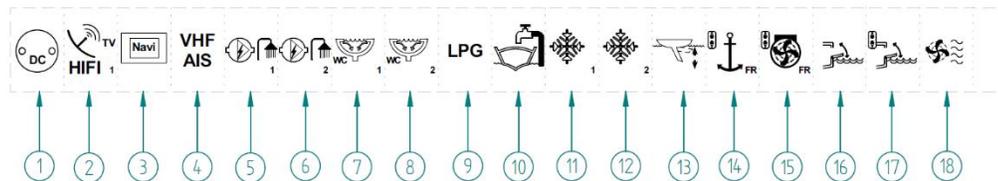


The 10 touch keys switch on / off the desired DC elements via relays.



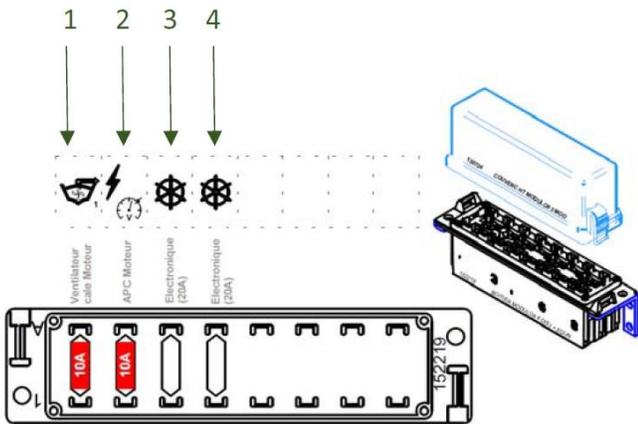
### NAV STATION ELECTRICAL PANEL AND FUSE ACCESS

Should you need to access the fuses or relays behind the nav station electronics panel.

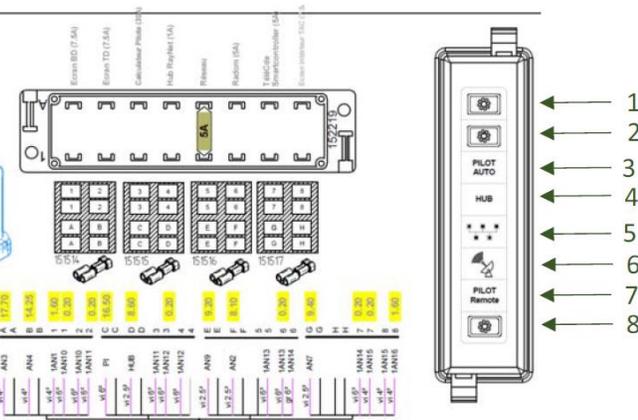


- |                                 |                                 |
|---------------------------------|---------------------------------|
| 1. 12 V socket                  | 10. Deck wash pump              |
| 2. HiFi & TV Antenna            | 11. Fridge (Cockpit)            |
| 3. Touch screen (Supply)        | 12. Fridge (Workshop)           |
| 4. VHF / AIS                    | 13. Retractable keel            |
| 5. Forward shower drain pump    | 14. Electric windlass (Control) |
| 6. Aft shower drain pump        | 15. Bow thruster (Control)      |
| 7. Forward electric toilet pump | 16. Electric platform           |
| 8. Aft electric toilet pump     | 17. Pickups – Electric platform |
| 9. Gas solenoid (US Version)    | 18. Cabin ventilators           |

**Location: Port aft cabin**



1. Engine compartment fan
2. Positive engine ignition
3. Electronic instruments
4. Electronic instruments



1. Touch screen - Port side console (7,5A)
2. Touch screen - Starboard console (7,5A)
3. Pilot calculator (30A)
4. System (1A)
5. System (5A)
6. Radar antenna (5A)
7. Smartcontrol remote control (5A)
8. Touch screen - Chart table (7,5A)



A fuse protects an electrical circuit from excess current. If it blows, you must replace it with another fuse of the same rating.



When replacing fuses/circuit-breakers, always ensure replacements are of the correct capacity (see the colour-codes)



## CABIN OUTLETS

There are AC outlets when connected to shore power. There is one plug in each of the cabins, one just forward of the chart table above the side shelf and two outlets behind the refrigerator under the cabinets.

There are two USB outlets (DC power) in each stateroom by the 120v AC outlets, one USB at the main electrical panel below the 12v switches and one in the nav station cubby right of the flashlight. All but the nav station USB's have a green light indicating they are on and drawing 12v power.



In addition, we have provided two USB rechargeable outdoor camp lanterns for use in the cockpit or below for safety and night ambiance.

There is also an AC rechargeable vacuum in the starboard salon settee for sand, nits and bits that get scattered about.

These three rechargeable units are intended for your convenience. If you find them in need of a charge, an hour or so reconnected should do the trick. The camp lights will come up to speed after connecting to a USB and the vacuum has a base charger that plugs in to AC when you are connected to shore power.

We have included onboard at least two of the most common USB power cords, Apple lightning, Garmin Watch, USB-C, micro-B, mini-A, 12v cigarette lighter type and a magnetic charging pad. These are located in the starboard salon settee in the Vacuum and Camp Lights box.

## LIGHTING

There is direct and indirect LED lighting in the salon, The switches are just inboard of the sink on the side cabinetry.

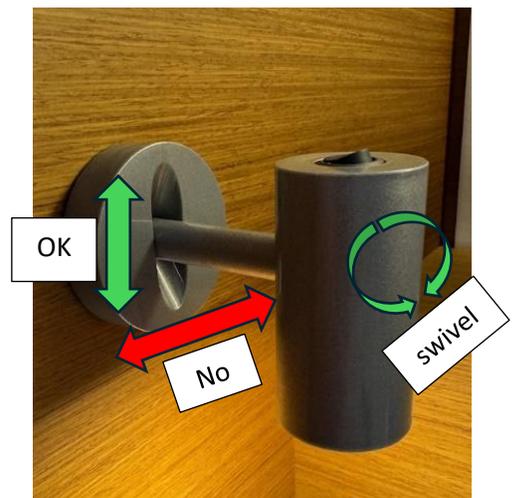
The heads have two switches, the right one is the LED lighting, and the left one is the shower sump pump that runs for about 15 seconds then shuts off when dry.

There are LED courtesy lights in the cockpit. The switch is located to the right of the starboard helm. There is also a dummy switch there.



Please note that the cabin lights move up and down on the stalk and **the head swivels back and forth about 90 degrees**, however,

- **the stalk only moves vertically up and down at the base.**
- **the stalk DOES NOT move horizontally, doing so will break it.**



## SHORE POWER AND THE 120v AC SYSTEM

The circuit breaker panels for the 30amp 120v AC system are located in the Port Cabin behind the three cabinet doors along the hull. **We basically leave these alone.** Should a breaker trip it would be best to determine why the breaker was tripped and once resolved, then flip the breaker back on.

From front to back, behind the first cabinet door is the charger for the batteries and the black GFI circuit breaker aft of it. The second door has the panel controlling the water heater and AC to DC inverter and the third door has another AC ground fault breaker and the galvanic isolator.

When plugged in to 30Amp shore power and the dock breaker is switched on, both ELL cable ends will display a blue LED indicating there is power to the boat.



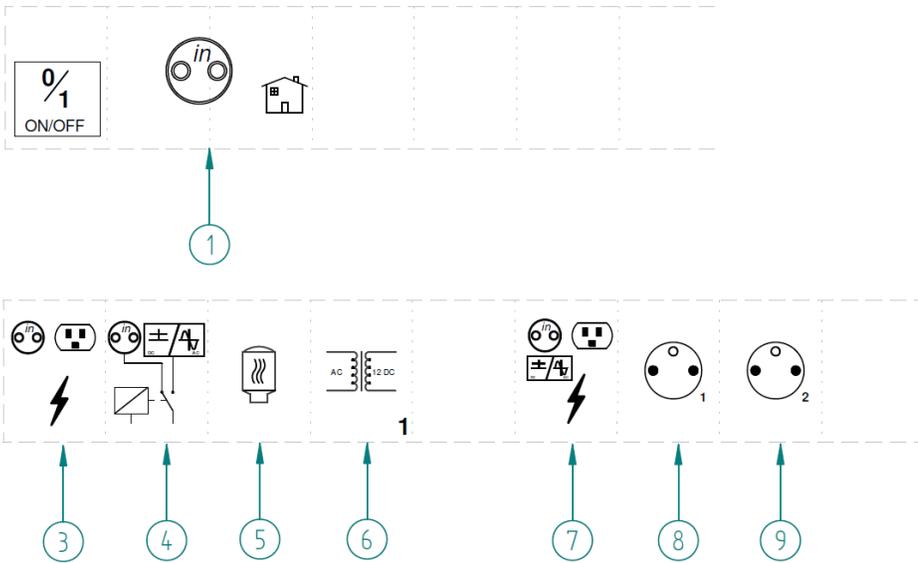
GFI Breaker and Battery Charger



Blue LED



Aft cabinet AC Ground Fault Breaker



- 5. Breaker - Water heater
- 6. Breaker - Standard charger
- 7. Live voltage indicator light - Inverter
- 8. Breaker - Inverter
- 9. Breaker - Inverter

1. Differential - Shore/onboard power

European term "Differential" relates to **ground fault protection.**

- 3. Live voltage indicator light
- 4. Breaker - Socket inverter circuit

## 10. DECK FILLS/PUMP OUTS

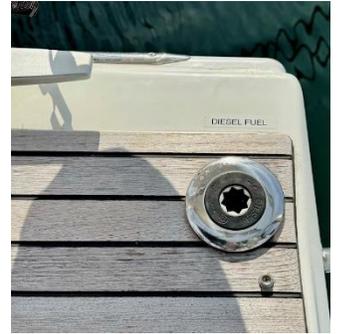
Deck Fills are color coded with a **color ring sandwiched between the deck cap and the deck. There is a tank label near each cap indicating fuel, fresh water and black water.**

There are two Deck Cap Keys stored in the Nav Station and spare deck keys in the Fids and Spares clear box under the starboard salon settee.

The Fuel and Fresh Water caps have teethers, The Black Water caps have no teether so please watch these closely.

## Red Ring - Diesel Fuel

The Fuel Fill Cap is located on the starboard helm seat by the stern cleat. There is a RED inlet ring between the fill cap and the teak deck.



## Blue Ring - Fresh Water

starboard side by the 3<sup>rd</sup> stanchion from the bow.



## Black Ring - Black Water

There are two tanks.

1. Port side between the 2<sup>nd</sup> and 3<sup>rd</sup> stanchions from the bow
2. Starboard side aft of the midship cleat.



## 11. BERTHS

ORCA sleeps six comfortably on three rectangular twin berths. Well, almost three twins, as you can see below the bow berth is narrowed at the port bow (6'6" x 4'5"). The aft berths are (6'6" x 4'11"). Each of the berths has a Hyper-vent condensation prevention mat under the mattress and they each have a twin comforter and a fleece blanket.



## 12. DINGHY AND OUTBOARD

The Dinghy is a 9'11" Zodiac Cadet 300 Alu Rib aluminum bottom dinghy with a 3.2 hp Mercury OB Engine. The dinghy holds 5 adults, and the outboard is easy to operate.

The dinghy has a 50' painter tied with a bowline to the shackle secured to the towing eye.

We tow the dinghy from the aft starboard mooring cleat. Before starting the engine, be sure the floating painter is not under the boat. Before maneuvering in tight quarters bring the dinghy tighter to the transom or side tie the dinghy at a midship cleat. This guarantees that you will not accidentally wrap the painter around the propeller when you back up!

In my experience the dinghy tows with the least drag if set on the front side 2nd stern wave. It does tend to sway back and forth a bit, but it appears to me to be slightly surfing so we're assuming there is less drag.

We appreciate your special care when beaching the dinghy. Beaches in the San Juan's are seldom gentle, sandy beaches; often they are rocky and covered by barnacles equipped with extra sharp rubber cutters.

The Mercury outboard has a four-stroke engine and is water cooled. It uses straight gasoline from an internal tank. San Juan Sailing will be sure you have both the internal tank and a full red plastic gas can aboard. The red plastic gas can is stowed in the starboard aft lazarette along with the spare propane tank. This locker is sealed and vented so gas fumes will not get into the boat.



**It is highly recommended that you take the spare gas tank with you.** The Outboard has a small tank in the cowling. The motor tends to run out of gas in about 45 minutes when at ½ throttle.

Please do not cruise with the outboard on the dinghy as a large wake or gust of wind can overturn the dinghy. The OB is light and easy to move from the stern rail mount to the dinghy transom (and vice versa) by hand.



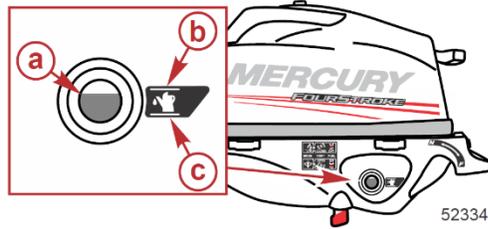
When moving the OB Engine to the dinghy or back to the stern rail mount please use the **Green safety line** tied to the lower stern rail and the forward handle of the Mercury OB engine in case the OB is accidentally dropped.



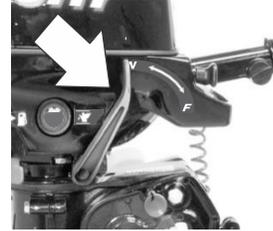
### Starting the Mercury Outboard Engine

1. Check the engine oil level. Place the outboard in a level upright position and check that the engine oil level is within the operating range.

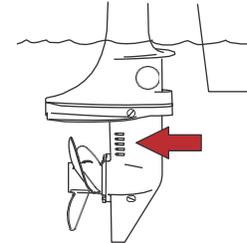
- a - Oil level inspection window
- b - Upper oil level
- c - Lower oil level



2. Shift the outboard backwards to the neutral (N) position.



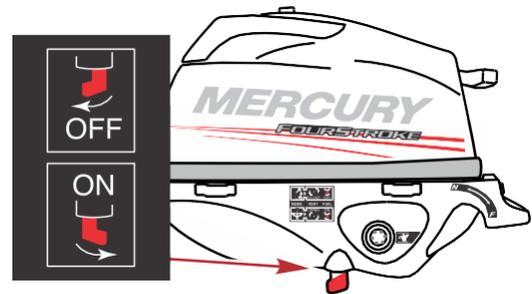
3. Make sure the cooling water intake is submerged.



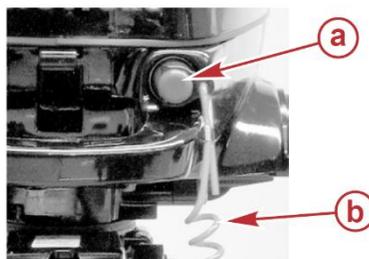
4. Open the air vent on the fuel tank.



5. Move the fuel shut off valve forward to the open (ON) position.

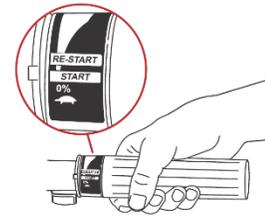


6. Attach the lanyard to the stop switch.  
- NOTE: **The engine will not** start unless the lanyard is engaged with the stop switch.

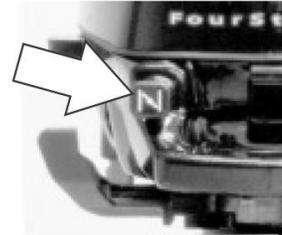


- a - Engine stop switch/lanyard stop switch
- b - Lanyard

7. If the engine is cold, set the throttle grip to the "START" position. If the engine is warm, set the throttle grip to the "RE-START" position.



8. If the engine is cold, completely pull out the choke. Push in the choke halfway as the engine is warming up. Push in completely after the engine is warmed up.



9. Check for a steady stream of water flowing out of the cooling water exit hole.



**IMPORTANT:** If no water is coming out of the water pump indicator hole, stop the engine and check cooling water intake for obstruction.

**NOTE:** Starting flooded engine - Push in the choke knob. Wait 30 seconds, then continue to crank the engine for starting.



Pull the starter rope slowly until you feel the starter engage, then pull rapidly to crank the engine. Allow the rope to return slowly. Repeat until the engine starts.

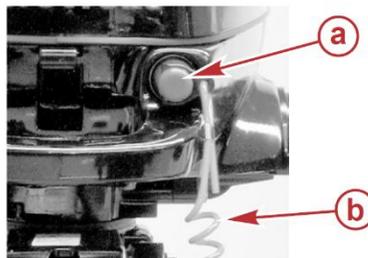


## Reversing the Boat

1. Reduce throttle speed to idle speed.
2. To reverse direction, turn the outboard 180°. The tiller handle can be swung back for ease of operation.
3. Return the throttle grip to the slow position when turning the outboard back to forward direction.

### Stopping the Engine

Reduce engine speed and push in the stop switch or pull the lanyard.



- a - Engine stop switch/lanyard stop switch
- b - Lanyard



The best practice before putting the outboard away back on the railing mount, is **to turn the fuel off while the engine is idling and let the motor run the fuel out of the system.** Then close the top air vent and mount the outboard on the rail mount.

#### Dinghy - Outboard Troubleshooting



If the engine will not start, review the start steps above to make sure you have done all 9 steps.

If the outboard is running and the engine suddenly quits, it is usually that the fuel vent cap, wasn't opened.

## 13. DODGER & BIMINI

Please be gentle with the Dodger, Bimini & Connector panel. The Dodger glass is Makrolon that allows for a clear view out but it is an acrylic and can be scratched if not maintained properly.



If the glass becomes spotted with salt, please get a pot of fresh water from the galley sink and "flood" the salt crystals off the plastic. Then, if necessary, please use only microfiber towels found in the port side cockpit seat locker in a gallon Ziplock bag to wipe the dodger glass on the outside or to remove any inside condensation.

The Connector Panel that zips between the dodger and bimini can be removed by unzipping it. If you do remove it, please roll and stow it in the starboard cockpit seat locker. This goes for the window covers too (3 for the dodger, 2 for the bimini), which are typically left on unless the Dodger and Bimini are in use.



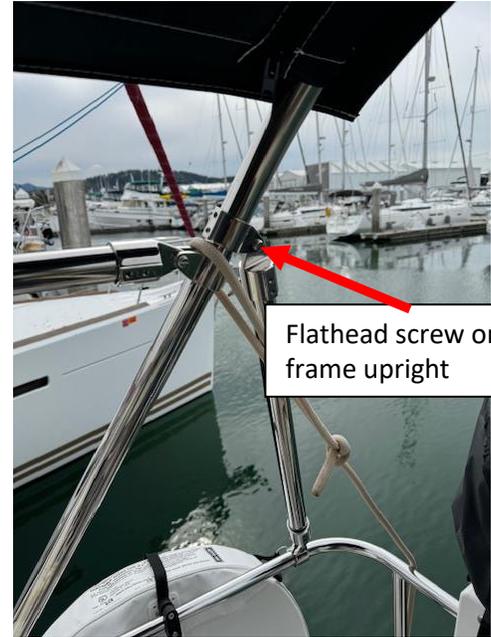
**Putting the connector panel back on works best with two people.** Start at the dodger and zip both sides from centerline outboard about 3 to 4 inches per zipper. Next go to the bimini end and start each zipper from centerline. If they will not reach, one person can gently pull the bimini bar down and forward to help get the zippers going. Once all zippers are connected, zip them all closed. Then snap the 4 straps at each of the corners of the Connector Panel.

If you are really stuck trying to start the zippers. Remove the screw from both aft uprights that support the bimini frame. This will allow the frame to tilt forward and provide plenty of slack to start the zippers. I've done this solo with the aid of the mainsheets and winches to align the screws for reassembly. There is a large green straight screwdriver in the canvas tool bag that fit these screws.

Please be very careful not to cross thread these screws when reconnecting.



Mainsheet tied to bimini frame to guide realignment of screw.



Flathead screw on frame upright

## 14. ENGINE AND OPERATING UNDER POWER

**Cruising should be done at engine RPMs of 2400 to 2800.** The following table gives approximate cruising information:

RPM's	Boat Speed	Fuel Consumption	Hours	Range
2400	7.0 Knots	Approx. 1.2 gal/hr	28h	134 Naut. Mi.
2650	7.7 Knots	Approx. 1.5 gal/hr	22h	122 Naut. Mi.
3020	8.0 Knots	Approx. 2.4 gal/hr	14h	79 Naut. Mi.

**The ranges listed assume a 25% reserve in the 34 gal fuel tank (so 26 gal usable).**

We find pushing the engine beyond 2800 RPM (or 8.0 - 8.5 knots) does little good as the boat reaches hull speed at about this point and adding more RPM gives a little more speed as the boat digs more of a hole and burns more fuel.

There is a blower in the engine compartment which is vented in the transom walkway above the swim shower. This blower runs continuously when the engine power is on. It is designed to keep the temperature in the Engine room lower.

**⚠ Each Week during the guest changeover our Marine Tech Pro performs the below engine checks. However, if you charter the boat for more than a week, please perform these checks.**

DAILY ENGINE CHECKS ARE ADVISED as follows:

1. Check under the companionway stairs and look at the serpentine belt tightness when the Engine is OFF by reaching your fingers under the protective cover and pulling up on the belt. There should be no more than ½ in deflection.
2. Look at the bilge for leaks of any kind.
3. Check Coolant level by doing a visual on the expansion tank. The level should be between the lines. Do not fill as coolant will expand when the engine is up to temp.
4. Check the Sea Strainer – this is a visual check with a flashlight and the mirror found in the nav station. The Sea Strainer is located in the aft port corner of the engine room. If there are weeds inside the strainer, use the strap wrench located under the starboard salon settee to and open the cap. Remove the strainer cap being careful not to unseat the black o-ring and clean out the weeds. Replace the strainer and carefully thread the clear plastic cap onto the grey body and gently tighten.



Coolant Exp Tank – Sea Strainer

### Starting:

- a. After the above engine checks are completed close the engine access and ensure that the Engine Start Battery and Black Negative Ground Breakers are in the ON position.
- b. Make sure the gearshift is in neutral (vertical lock – the red button can push in only when in N).
- c. **Push the On/Off button for approximately two seconds** and you'll hear the engine circuit come on.
- d. Once the panel has booted up (takes 3-4 sec.), **push the Start/Stop button.**
- e. After she starts, check for water flowing out the exhaust at the aft port side hull.
- f. Warm up the engine for approx. 5 min before shifting into gear.
- g. When shifting between forward and reverse, **always pause at neutral.**



**Engine Overheat** - The first alarm to signal an overheat situation will likely be the exhaust temp alarm. This alarm is located in the Stbd cockpit Settee locker at the aft bulkhead. There is a red LED and audible alarm. If this goes off, look to see if there is cooling water exiting with the exhaust and if there is restricted or no flow shut the engine down immediately when safe to do so.

Overheating is the most likely cause for the light and audible alarm, but the engine has its own alarms as well, for example it will also alarm if you run out of fuel. If you have overheated the engine you will need to find the source. When safe to do so is shut the engine down. First thing to check is if the sea strainer is clogged with debris, look with the mirror and flashlight. Next check if there is intake thru hull obstruction like a plastic bag over the intake. If all looks good, then the problem is downstream and may need a mechanic. Call San Juan Sailing if a mechanic is needed.

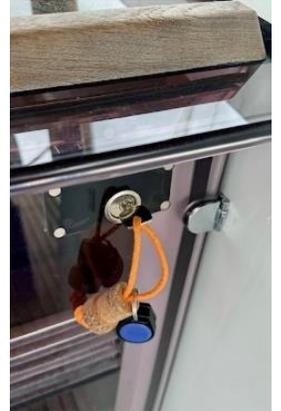
### Engine Shutdown –

- First make sure the engine is at idle and the gearshift in neutral.
- Then **push the Start/Stop button** on the Yanmar panel for about 2 seconds.
- Once the RPM reaches 0 on the screen, **push the On/Off button** for 1 to 2 seconds to turn the system off. This will turn off the engine compartment cooling fan.
- Then **turn the engine breaker off** in the port aft Cabin.



FYI, the engine breaker is effectively the key to the engine. If the breaker is left on the engine can be started and the boat motored away. The only “lock” on the boat is the companionway lock in the cockpit.

OBTW the hatch lock required **two complete turns of the lock cylinder** to lock or unlock the hatch.



When sailing, be sure to lock the transmission in reverse to stop the prop from spinning and wearing/ making noise. If sailing swiftly when you go to start the engine the throttle may not want to go into neutral. Get it as close as you can and start the engine at very low RPM. Once the engine starts the centrifugal force of the prop spinning will allow for an easier shift into neutral and then forward.

## 15. FUSION STEREO/RADIO

5. Connecting your device via Bluetooth: Push menu button and select BT. Select discoverable. Open Bluetooth settings on your device and scan for Bluetooth devices. The stereo should show up on your list of devices as "ORCA AUDIO. An option should show up on your display asking to pair with the device and confirm pairing code, select "OK".

Once paired your song selection and device name should show up on the Fusion display.

6. Push the volume dial to select individual speaker zones, Cabin, Cockpit or both.



## 16. WI-FI CONNECTIVITY SYSTEM

ORCA is equipped with a Peplink/Google Fi 5G connectivity system featuring a Peplink Max HD1 Dome antenna at the top of the mast. There is a router, booster and sim card under the starboard salon settee. You should not need to access any of the equipment.

To log onto the connectivity system with your device (laptop, phone, tablet) turn on the wi-fi on your device and you should see ...

- Wi-Fi = **ORCA 5G Wi-Fi**
- Password = **ORCA8coho**.

Each charter guest is given a 25GB allotment of data to use for their charter. For normal email and staying connected this should be ample. For streaming you will need to manage your data usage accordingly.

## 17. FUEL TANK

The **diesel fuel tank holds 34-gallons**. It sits under the starboard aft cabin berth.

The fuel shut-off valve is located on top of the tank. The fuel gauge is located on the Navi Color touch screen display at the nav station.

When filling the tank listen closely and have someone monitor the tank gauge during fueling by frequently touching the fuel icon while filling. **As you get closer to being full you will hear fuel starting gurgling in the fill tube, that is the time to stop the flow of fuel.** Any more filling and fuel will flow out the air vent swiftly causing a spill. We recommend once you see the percentage full at 95% – 100% stop fueling. The Fuel Fill cap is located at the aft starboard helm seat by the mooring cleat.

- Ensure the cap is put back on nice and snug (please inspect the seal at this time for any visible damage which might prevent a water-tight seal).

## 18. ENGINE DISPLAY PANEL

The engine hours can be viewed using the digital readout on the engine panel in the cockpit. There are several screen pages set up as follows:

1. RPM + Burn Rate
2. RPM + Oil Pressure
3. RPM + Battery
4. RPM + Engine Hours



## 19. GALLEY

ORCA has a L-shaped galley with lots of counter space and stability. We have done our best to provide a well-equipped galley. We have place settings for six onboard and most of the pots, pans and utensils needed for food preparation. There is a large assortment of spices condiments and supplies onboard. The following list is intended to give you a flavor of what we try to keep onboard.

- Spices – 12 assorted spices.
- Condiments - Olive oil, balsamic vinegar, and hot sauce.
- Supplies - saran wrap, aluminum foil, baggies, containers and garbage bags.

### REFRIGERATOR/FREEZER

The top load fridge/freezer is switched on/off by the nav station DC panel switch shown in the figure to the right. The fridge control is the black knob on top near the freezer box. We've found that when the control knob by the freezer box is at 6:00 the freezer makes ice and everything else stays cold at about 34 f. The refrigerator is powered by either battery (with or without the engine running) or shore power when connected.



### STOVE AND OVEN

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

To light the Stove, Oven or Broiler:

- Turn "on" propane solenoid valve switch in galley below the sink behind the left door. Push down on the red button then toggle "up" on the rocker.
- Choose the element of the stove you wish to use, then turn the appropriate knob to the left (right for the broiler) to a flame icon then push in the knob and hold it, and simultaneously push the ignition button on the right side. Once lit release the ignition button but keep the control knob depressed for 5 to 10 seconds. Then release the control knob and the flame should remain lit. For the Stove and Broiler feature turn the knob to the right for the broiler and to the left for the oven. When lighting the stove or broiler it takes about 3-5 seconds to allow the thermocouple to sense the flame.



- The stove and burners are off then the chrome bar On the control knobs are pointing up.
- **\*\*NOTE: Broiler feature should always be used with the BROILER PLATE at the top underside of the oven opening.** Failure to use the BROILER PLATE may cause the glass in the stove to crack.
- When you are finished with the stove, oven or BBQ turn the solenoid switch in the galley “off”.
- When not in use, be sure all stove controls are in the vertical "off" position and the BBQ regulator “off” and yellow t-valve inside propane locker in in the horizontal closed position. The solenoid should be off (down with no green light).
- Please note that propane valves and solenoid are in the propane locker in the aft port side of the cockpit. This locker is vented and isolated from the rest of the boat. If there are any leaks the propane will be vented down and out of the sealed compartment. San Juan Sailing's staff fills the propane tanks based on weights. There are 2 aluminum propane tanks, one in the aft port lazarette and the other spare is in the starboard aft lazarette. One propane tank normally lasts 3-5 weeks.

## 20. BARBECUE

The stainless-steel propane barbecue is mounted on a swing arm and best accessed from the swim platform.

To operate the BBQ

1. Turn on the solenoid switch in the galley. Both the galley stove and BBQ are controlled by the same propane solenoid switch.
2. Ensure Propane tank valve in the port aft lazarette is turned on. We typically leave the tank valve open when cruising.
3. Ensure the BBQ control is turned off.
4. Turn on the yellow valve which controls the gas to the BBQ. The horizontal position is off, vertical is on.
5. Remove the shelf and cutting board from the grill and install them on the front of the BBQ.
6. You are now ready to fire the grill, Ignite the grill by using the ignitor button located at the top inner part of the gas control.
7. Pro tip, close the lid latch when grilling so it won't lock itself closed when you are cooking.



This shows the yellow BBQ valve in the off (horizontal) position and the black solenoid valve.

The swing arm is designed to have the grill swing from stowed position 90 degrees and be perpendicular to the transom.

When done with the BBQ turn off the control valve on the grill, turn the yellow valve inside the propane locker to horizontal and turn off the propane solenoid in the galley if you are not using the stove. Please clean the BBQ after every use and after it cools put the cutting board shelf in the grill and lock it then put on the BBQ cover and snug the white perimeter cord.



Bungee to secure BBQ to the rail.



BBQ w/ shelf installed ready to grill.

BBQ w/ shelf stowed ready to lock down.



## 21. Storage



Access to the salon settee storage areas is best **done by removing all the cushions above the hinged seats**. The cushions all have Velcro attachments and come apart and go back together easily.

The Starboard salon settee has several plastic totes that are labeled, tools, tapes, vacuum etc.

The Port forward salon settee is kept clear for your storage of dry goods.

The Port center salon settee is also clear except for the case with the Owner's Manuals.

The Port aft salon storage is in a drawer that opens toward the nav station with about 1/2 the space used for dishes and the other 1/2 clear for your use. To open the drawer, move the carpet out of the way, pull the locking pin that is on the forward bulkhead just to the right of the drawer (it is a little stiff) and then pull the top of drawer latch toward you to open.



ORCA has quite a lot of storage for groceries. Below are pictures of 5 grocery bags stowed in the port salon settee lockers.

ORCA has an under-floor wine cellar for wine, beer, soft drinks, water etc.



Please be careful when replacing the wine cellar floorboard to not scratch the sink side cabinetry by seating the tail end all the way toward the head before lowering the chrome handle end.



Wine Cellar and can storage



2 grocery bags



3 grocery bags

## Tools onboard



Canvas tote



DeWalt tool kit.



Plastic Tote w/ wrenches and screwdrivers

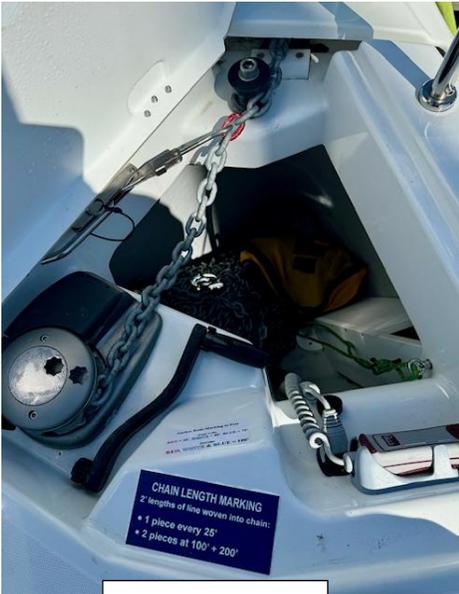


Plastic tote w/ fids, twine & Spares



 The Plastic totes have mediocre grey end clamps, so we have added 1" black straps. These are fairly tight but can be snapped together at the end of the tote and then can be slid to the center to secure the tote.

## On Deck Storage



Anchor Locker



Port Cockpit Settee Locker (wet)



Starboard Cockpit Settee Locker (dry)



Starboard Aft Lazarette Locker



Port Aft Lazarette Locker



Port Aft Lazarette Locker and 2<sup>nd</sup> Anchor

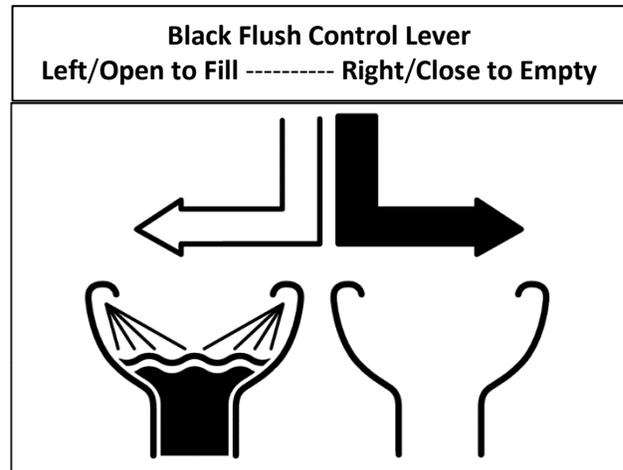
## 22. HEADS AND HOLDING TANKS

Please do not put anything in the toilet that has not been eaten. Experienced sailors deposit toilet paper in a wastebasket, not down the toilet because paper tends to clog the system. There are no plumbers at sea!

Both heads have manual seawater pump flush toilets. Each head has its own holding tank, 13 gallons forward and 21 gallons aft. It is easy to fill the holding tank swiftly if using a lot of water and toilet paper. If using toilet paper, be sure it is San Juan Sailing marine grade TP that breaks down swiftly and use sparingly.

### Toilet Operation

1. Move the Black Flush Control Lever to the Left/Open position.
2. Twist the Pump Handle to the right and gently pump up and down until seawater enters the bowl.
3. Do your business.
4. Add a few pumps of seawater to the bowl if necessary to cover the bowl contents.
5. Close the Flush Control Lever to the right.
6. Operate the pump with long, smooth strokes until the bowl is empty.
7. **Close the Flush Control Lever to the Right/Closed**
8. **Lock the Pump Handle by pushing down and twisting to the Left.**



In certain parts of Canada, the tanks can be dumped overboard by opening the holding tank drain valves in each of the head compartments.

When the large red T-handle is perpendicular the valve is closed, when parallel it is open. Please note these are gravity drain tanks, they will normally drain in less than a minute (you will hear them finish with a 'woosh' if the engine is not running).

**+** If you have four people on board and have “normal” usage, the tanks will need to be emptied every other day. If you have more onboard or heavy usage, please pump out every day.

There is no electronic level indicator for the black water tanks, however the tank level can be easily seen through the opaque tank by pulling back the wooden panel parallel to the hull. To open for inspection, pull the panel from the top.

Visual look at black tank level



## 23. SHOWER

While we prefer to shower on shore or on the swim platform, when possible, both heads have a shower wand which works well too. We have shower curtains in each head that can be hung by the hooks along the outer wall to protect the cabinetry from overspray. In addition, there is a silicone squeegee for wiping water off the other surfaces like the head door.



## 24. HEATER

The Webasto Furnace uses diesel fuel from the main tank. The heater thermostat is mounted on the bulkhead forward of the nav station.

Turn the heater on by pressing the power switch at the upper right that will turn white (if not white already) and then green when on. Press the middle disc for menu options and the thermostat and set the temperature you want. There is a 2- 3-minute delay from when you turn it on to when you will hear the fan running. There is a rotating dial on the controller that is used to adjust the temperature. When you want to turn the heater off you simply press the power button (button will turn white).

The diesel is pumped from the main tank and the heater fuel intake does not go all the way to the bottom of the tank so you don't run the fuel tank dry using the heater.



If you are planning to use the heater, do not let the fuel tank go below 1/3 full, otherwise the heater will lose prime. Should this happen it takes about 6- 7 start sequences to re-prime the system or may need a reset on the control panel by a technician.

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

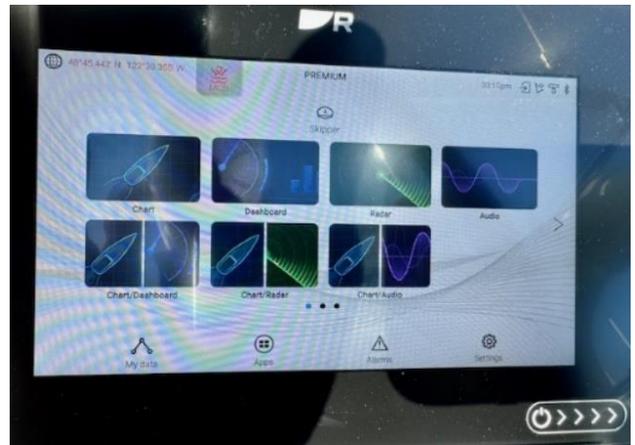


The exhaust vent for the heating system is located on the aft starboard stern quarter of the boat and gets very hot. Please be aware this is a common location for placement of a starboard stern fender when at the dock or rafted with another vessel. There is also a carbon monoxide risk to the boat occupants tied to the starboard side if using the Webasto system. We recommend the starboard side be tied on the outside of a raft arrangement to minimize this risk.



## 25. ELECTRONICS

- ORCA is equipped with a Raymarine chartplotter. This is powered by the Electronics breaker on the DC electrical panel.
- After power is applied, the system will return to the last formats / settings selected. The most popular selections for screen formats are accessed by selecting Home, then select the desired app for the plotter.
- Please refrain from changing settings beyond the typical functions like chart orientation, radar overlay, AIS overlay and range.
- Commonly used chart plotter selections are detailed below. For a more complete orientation of how to operate and get the most value from a Raymarine chartplotter, we recommend downloading the user manual for the **Raymarine Axiom LightHouse 4 Advanced Operation instructions . LightHouse 4 (v4.6.103) Advanced Operation instructions 81406 (Rev 12) (EN).pdf**

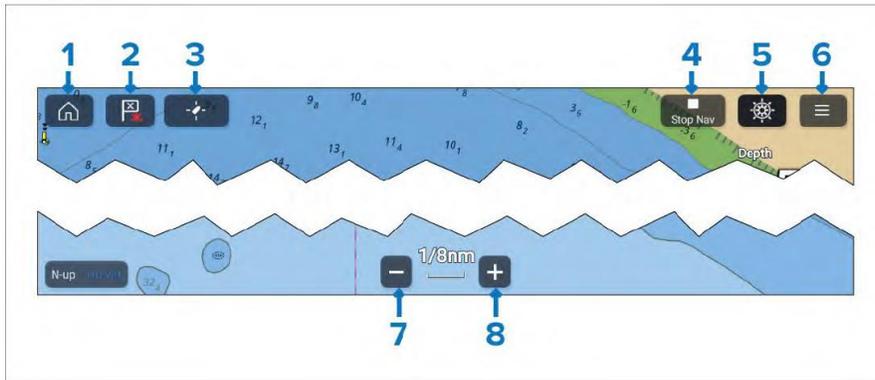


### CHART PLOTTER:

- ORCA has two sets of charts loaded on microSD cards that are available to view through the Axiom+ chartplotter.
  - Raymarine's LightHouse Charts and
  - Gamin's Navionics charts.

## Chart app onscreen controls.

Onscreen controls are available which are overlaid in fixed positions onscreen.



1. **Home** — Select to return to the Homescreen.
2. **Waypoint / MOB** — Select to place a waypoint at your vessel’s location, or
  - **press and hold to activate Man overboard (MOB) alarm.**
3. **Find vessel** — Select to center the vessel icon on the screen. Only displayed when the vessel is not centered.
4. **Stop Nav** — Select to end active navigation (i.e.; goto or route follow). Only shown during active navigation.
5. **Pilot** — Select to open the Pilot sidebar. Only displayed when autopilot integration is enabled.
6. **Menu** — Select to open the Chart app menu.
7. **Range out** — Select to zoom out and show a larger area onscreen.
8. **Range in** — Select to zoom in and show a smaller area onscreen.

### Finding the Navigational Chart: North America

- Turn on the “Electronics” switch at the DC panel.
- Agree to the Raymarine Limitations on use disclaimer.
- For largest display touch the Fullscreen Chart icon



### Zooming in and out:

- Touch the + or – buttons
- or by using a “pinch-to-zoom / zoom out” touch gesture.

### Panning around the chart:

- Swipe your finger across the chart to change your view.



### Returning the screen to the vessel’s current location:

- Touch the icon showing a boat with 4 dashes.



### Clearing Pre-existing Waypoints, Routes and Tracks:

- Touch the 3 bars icon
- Select Waypoints, Routes Tracks...
- Select for example Waypoints
- Select for example Today’s Waypoints
- If you want to delete all of today’s waypoints, select Multi-Edit

- Touch - Delete Selected

**Chart Orientation:**

- We’ve set the cart orientation to “Head-up”.

**Display Brightness:**

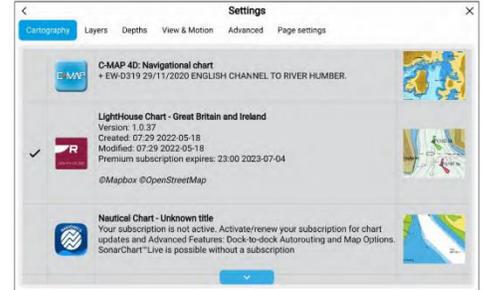
- We’ve set the smart backlighting to “Day” that automatically adjusts the display brightness based on ambient light conditions.

**Changing the Chart between Raymarine Lighthouse and Garmin Navionics**

From the Chart app menu:

- Select Menu (3 bars upper right)
- Select the Settings icon (3 gears at the bottom of the drop-down menu)
- Select the chart that you want to use.

The menu will automatically close, and the chart app will refresh to display your selected chart.



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

- ORCA transmits her position and data via an 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). ORCA is transmitting her position full time (The AIS unit is wired directly to the batteries).
- 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. Vessel name’s MMSI number is 123456789.

Enhanced AIS icons

	Sailing Vessel		Commercial
	High speed vessel / Wing In Ground vessel		Cargo vessel
	Passenger vessel		Other

**AIS Details**

AIS vessels appear on the chart plotter screen as triangles (must have AIS overlay turned ON – see above Quick Notes for how-to). 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 same type of information about Vessel name to other vessels with AIS.

The AIS is an added safety feature which allows large commercial vessels to easily see you and your direction/speed. They may try to contact you via VHF channel 16 to verify your course intent. In addition AIS allows San Juan Sailing/Yachting to provide faster assistance in case of unplanned maintenance issues as well as alert San Juan Sailing/Yachting of Vessel name’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.

## Building a Route

Routes can be created on the Axiom+ MFD in the Chart app.

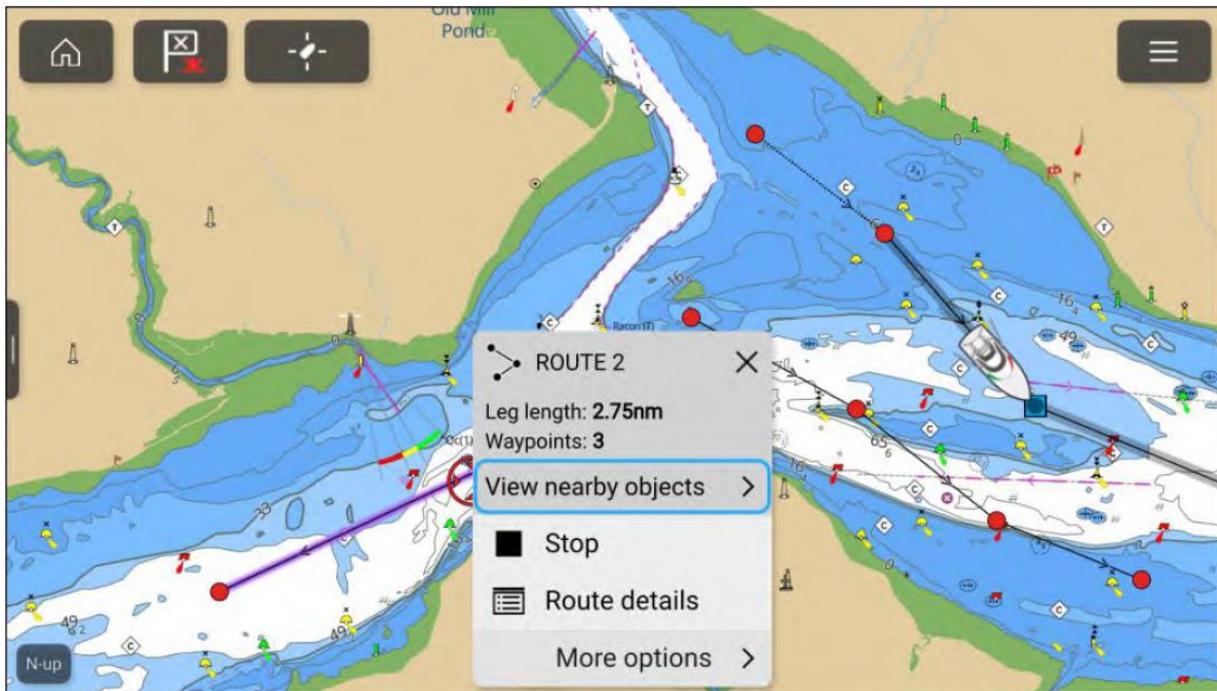
1. Touch and hold on the location for the first waypoint.
2. Select [Build route] from the context menu.
3. Touch the location for the second waypoint.
  - i. The 2 waypoints will be joined by a line, creating the first leg of your route.
4. Select the location for subsequent waypoints.

**Important:** If you place a waypoint in the wrong location, you can select **[Undo]** at any time to remove the last waypoint placed.

5. **Check your Route will be safe to follow**, you can move the waypoints in your route by dragging them to a new desired location.
6. When your Route is complete select [Finish route build].

### 5. Route highlighting

When a route is selected or being followed, the route will be highlighted onscreen.



**Followed route** — A route currently being followed has the current route leg and future route legs highlighted. The highlighting is dynamic, with highlighting removed from route legs already completed.

• **Selected route** — When you select a route onscreen with the cursor, the route is highlighted to distinguish the selected route from other routes which may be present onscreen.

### Use Autorouting during route creation.

Whilst building a route you can use Autorouting to automatically add a route leg to a route you have already started to create.

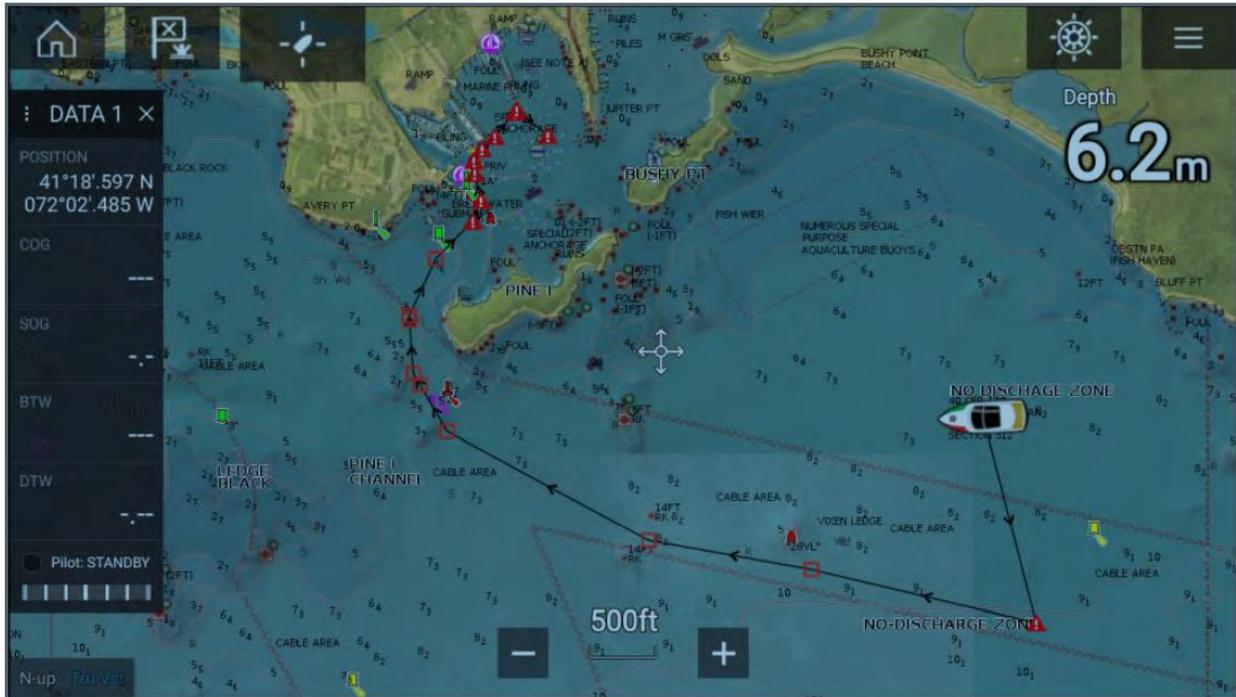
Press and hold anywhere on screen and select either [Autoroute to wpt] or [Autoroute to here]. Selecting [Autoroute to wpt] will allow you to select a waypoint from your Waypoints list to include in your route, selecting [Autoroute to here] will create a route leg to the cursor's current position.

Once an Autoroute leg has been added you can select [Finish route build] or add further manual or autoroute route legs.

## Autoroute



Autoroute is available when using The Navionics chart, Autoroute does not work with Raymarine Lighthouse charts.



You can select any point on the Chart and from the Chart context menu select [Autoroute to here] or you can select [Autoroute to] from an existing waypoint's context menu to create a route automatically between your vessel and the chosen point. The created route is generated by comparing data available on your cartography against the minimum safe distances specified in the [Boat details] menu: ([Home screen > Settings > Boat details]).

Waypoints will not be placed in areas that conflict with your specified minimum safe distances. Caution symbols are used for waypoints that are near objects or restricted areas.



**Never follow a route before checking each route leg is safe for your vessel.**



### Warning: Automatic route generation

- Do NOT rely on automatically generated routes to guarantee that the route is safe to navigate. You MUST review the suggested route carefully and where necessary edit the route before following it.
- If a waypoint within any automatically generated route is added or moved the Automatic route generation algorithm will NOT be used, extra care should be taken to ensure that the route leg and any moved waypoints are safe to navigate.



## Warning: Traffic separation

Automatic route generation features do not adhere to the Traffic Separation Schemes identified in Rule 10 of the *International Regulations for Preventing Collisions at Sea 1972* as amended.

Raymarine® therefore recommends that you do NOT use Automatic route generation to create any part of a route which will cross traffic lanes or pass near to traffic separation lines. In these situations Automatic route generation MUST be switched Off and the route or route leg MUST be built manually, ensuring compliance to the rules laid out in the above regulations.

## RADAR

You should have little need of the radar unless you get stuck on a time planned crossing/ movement or enveloped by fog. Fog in the islands usually forms in the wee hours of the morning and burns off by mid-day. If it is a bit foggy after breakfast, we put on an extra pot of coffee and relax until it lifts.

For practice, you can engage the radar screen and/ or radar overlay on the Chartplotter to get used to the system on a clear day.

***Please remember that SJS contracts and insurance do not permit night or restricted visibility sailing.***  
Prevent moving the vessel in fog if at all possible.

The radar is activated from the chart plotter home screen.

- Touch the Radar icon
- Select Transmit

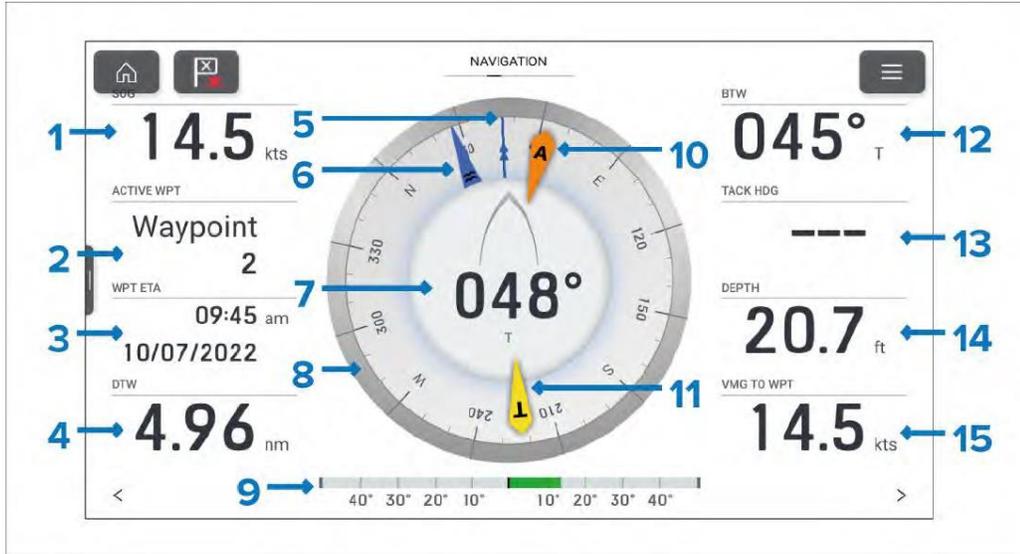


 If you use the radar, please make sure it is set to transmit off when you are done. Simply switching back to the chart plotter screen does not turn it off and it can draw a fair amount of power if you are using it while sailing.

## Course over Ground (COG) Vector/Line (Blue)

- The Navigation data can be seen on the dashboard screen.

## Default Navigation page



1. SOG — Speed Over Ground.
2. ACTIVE WPT — Active waypoint is the current destination (waypoint or goto location).
3. WPT ETA — Estimated time of arrival for the active waypoint location.
4. DTW — Distance to the active waypoint.
5. COG indicator — Course Over Ground.
6. Tide indicator — Tide direction.
7. Heading — Vessel heading.
8. Compass dial — The compass dial will rotate to provide indication of heading.
9. Rudder bar — Provides an indication of rudder position.
10. AWA indicator — Apparent Wind Angle.
11. TWA indicator — True Wind Angle.
12. BTW — Bearing to the active waypoint.
13. Tack hdg — Tack heading.
14. Depth — Water depth.
15. VMG to WPT — Velocity Made Good to Waypoint.

## AUTOPILOT AND WIND DISPLAY

At the Port Helm are two instruments, the multi-function with several options including wind/depth/speed gauges (right), and the autohelm (left).

By default, the wind/depth/speed (through-water) will appear as seen in the photo to the right

The autopilot is controlled with the **Auto** button at the lower right to engage, and the Red **STBY** button at the lower left to disengage. Never turn the wheel while in **Auto mode as it will stretch the steering system.** Note both wheels will turn when the autopilot is engaged.



## TABLET MOUNT

As mentioned earlier, there is a Scanstrut tablet mount at both helms for holding your iPad or tablet. The starboard helm mount can help aid maneuvering when using the engine entering a harbor, or the tablet at the port helm can help save steps when using the autopilot.

Our suggested app to complement the Axiom+ is Garmin's Navionics. To the right is a photo of our iPad in use at the starboard helm.

Our fully charged iPad (with Wi-Fi + Cellular) and a 26800-mAh backup battery will last all day on full display. It can also be turned off until needed to save battery.



## 26. VHF RADIO

The Raymarine Ray63 VHF radio is mounted at the nav station. It has its own on/off power button on the unit itself, it is NOT controlled by the Electronics breaker.

A wireless remote mic/speaker for use in the cockpit is kept and charged in the cradle at the nav station. The handheld unit is clipped to the button just inboard of the starboard helm.

The handheld has its own power button atop the unit. The main VHF at the nav station must be "on" for this remote to be operational. When both are on, the two units sync on the same channel.



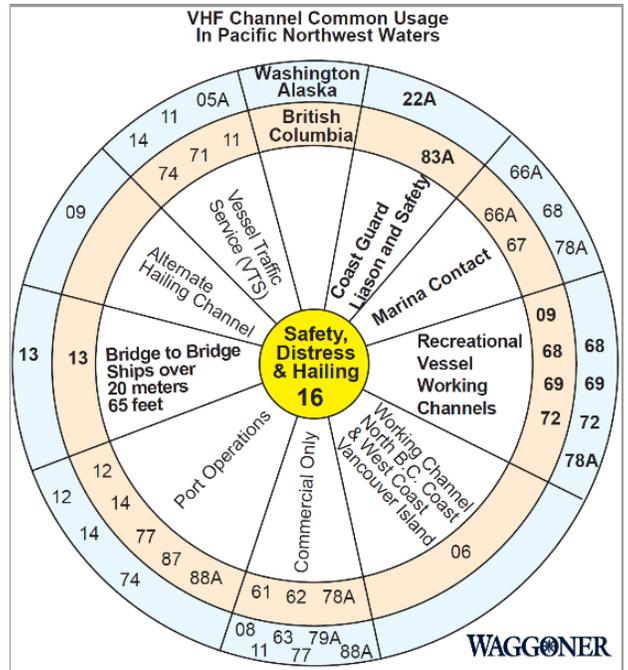
We recommend that you monitor Channel 16 during your charter. It is reserved for emergencies and boat to boat initial contact. After contact, move to channels 68, 69, 72, 74 or 78.

We listen to weather channels 1, 2, 3, 4 or 8 (whichever gives the best reception in the San Juan/ Gulf Islands) before we sail in the morning and prior to anchoring for the evening. When in the San Juan/ Gulf Islands, listen for reports identified as "Northern Inland Waters" for the most accurate weather radio forecast.

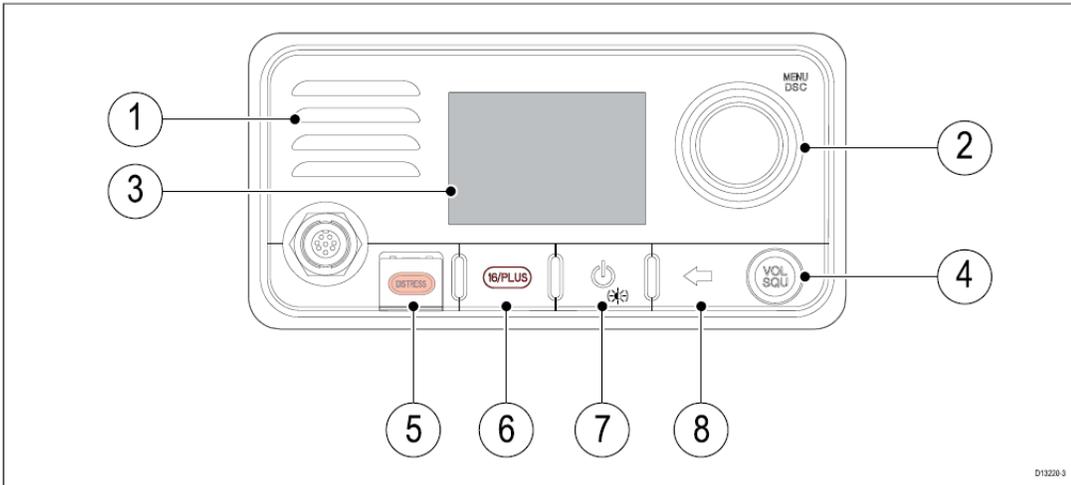
We also check the "Windy App" on our phones for weather.

San Juan Sailing monitors channel 80 during office hours Mon-Sat 9-5 (closed Sundays)

To the right is a chart of various channels in the PNW. This is also displayed at the helm.

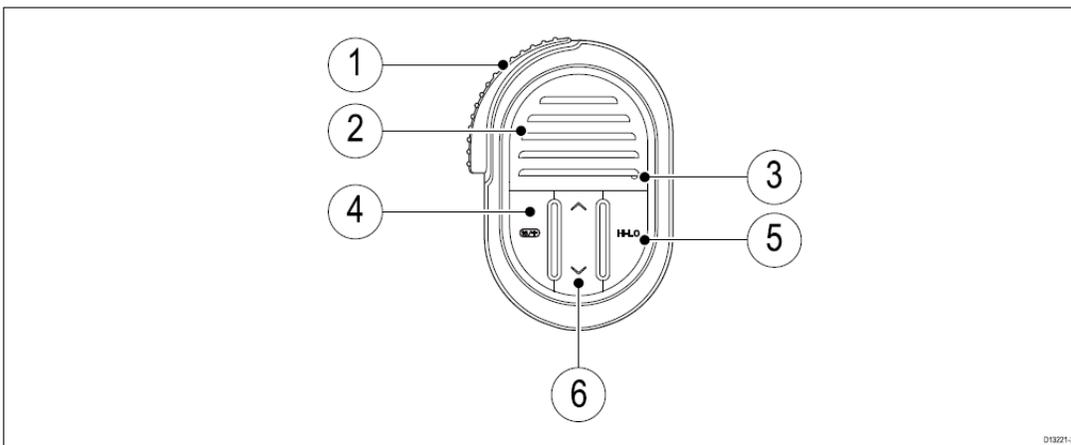


**Base station**



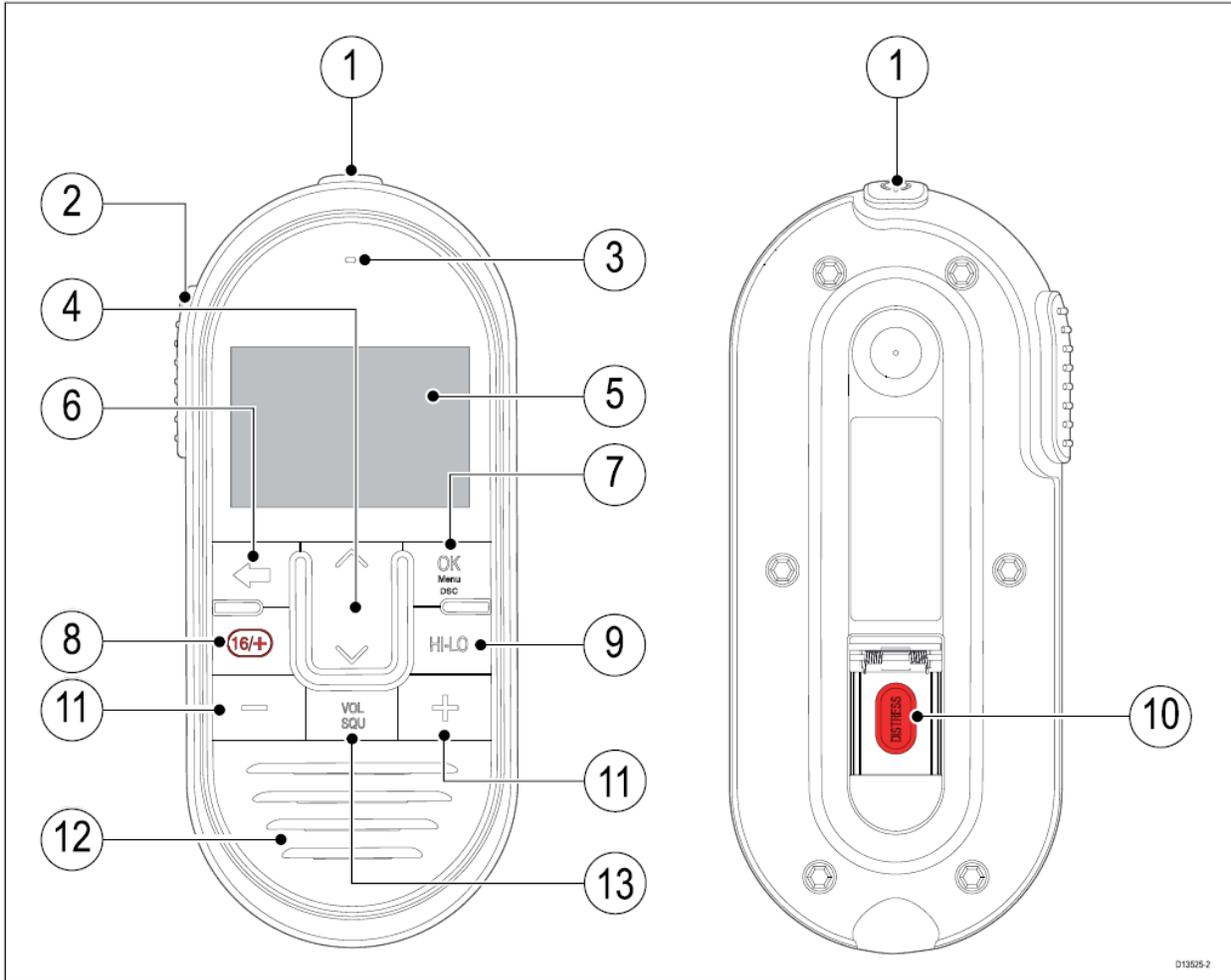
1. **Built-in speaker**
2. Rotary knob with center OK push button — Press knob in to access menu and DSC functions and to confirm selections. Turn rotary clockwise or anti-clockwise to move up and down through menu items or to change channel from the Homescreen.
3. **LCD**
4. VOL/SQ — Turn knob to adjust volume or squelch up and down. Press center button to switch between volume and squelch control.
5. DISTRESS — Push up the spring loaded cover and press this button to make a DSC distress call.
6. 16 / + — When powered on press to switch between priority channels.
7. Power — Press to power the unit on. Press and hold for 3 seconds to power the unit off. Momentary press to access the shortcut list.
8. Back — Move back through menu options.

**Fistmic**



1. **PTT (Push to Talk)** — Press and hold to send a voice message. Release to return to receive mode.
  - Note: The maximum transmit time is limited to 5 minutes to prevent un-intentional transmissions from occupying the VHF channel.
2. **Speaker**
3. **Microphone** location
4. 16 / + — When powered on press to switch between priority channels.
5. HI/LO — Press to switch between High (25 W) and low (1 W) transmit power.
6. **Channel Up / Channel Down** — Changes the channel up or down.

Overview of wireless handset controls.



1. **Power** — Press to power the handset on. Press and hold for 3 seconds to power the handset off. Momentary press to access the shortcut list.
2. **PTT (Push to Talk)** — Press and hold to send a voice message. Release to return to receive mode.

**Note:** The maximum transmit time is limited to 5 minutes to prevent unintentional transmissions from occupying the VHF channel.

3. **Microphone location**

4. **Channel Up and Channel Down** — Changes to the next or previous VHF channel, also used to select or adjust options in the menu.
5. **LCD display**
6. **Back** — Go to the previous menu / screen. Press and hold to return to the Homescreen.
7. **OK / menu button** — Press button to access menu / DSC functions and to confirm selections.
8. **16 / +** — When powered on press to switch between priority channels.
9. **HI/LO** — Press to switch between High (25 W) and Low (1 W) transmit power.
10. **DISTRESS** — Lift up the spring-loaded cover and press this button to make a DSC distress call.
11. **Volume Up and Volume Down** — Press to adjust volume or squelch intensity up or down.
12. **Built-in speaker**
13. **VOL/SQ** — Press button to switch between volume and squelch controls.

### Turning On and Off the radio

- The Ray63 nav station radio is turned on by touching the Power button on the face of the radio.
- The Wireless Handset is turned on after the nav station radio is turned on. That is done by pressing and holding the power button on the top for about 2 seconds.

### Silencing a DSC Alarm

- When another boat (or the Coast Guard) initiates a DSC alarm, it sounds an alarm on all boats in the area. To silence this alarm, press any key on the radio.

### Changing from High to Low transmit power.

- Look for the HI/LO button on the handset. Press this button to toggle between High (25 W) and Low (1 W) transmit power.

### To quickly get to channel 16

- Touch the red 16/+ button on either handset or the face of the radio. Pressing a second time will take you the default secondary priority channel 09.
- Press the 16 / + button to switch between the priority channels.

### Accessing the weather channels (WX)

- Turning the large channel select button on the nav station radio or pressing up or down channel on the wireless remote will change channels including channels WX1 to WX10.

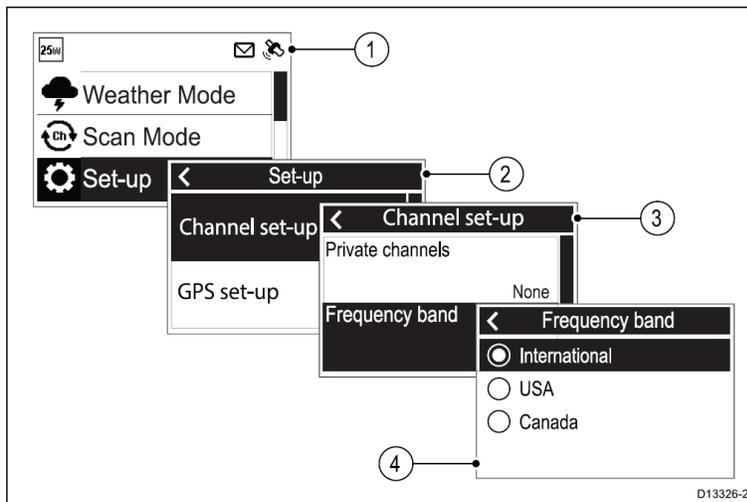
### Adjusting Volume and Squelch

- If audio / noise can be heard, press the Vol/Sq button until Squelch is displayed. Then adjust the squelch level with the volume button until the noise stops.

### Changing between International & U.S. channel

- Changing the radio region

From the Main menu:



1. Select Set-up.
2. Select Channel set-up.
3. Select Frequency band.
4. Select the relevant region from the list.

The available options are:

- **International**
- USA
- Canada

### How to set up and use Channel Scanning

- Scan mode is started from the main menu.
- From the Scan Mode menu: Menu > Scan Mode.
- Select the relevant Scan mode. (All Channels, All Channels + 16 Saved Channels or Saved Channels + 16)
- Select Edit Saved Channels to select the channels that will be scanned when performing a Saved channel scan.
- During Scan mode, press the Back button at any time to end the Scan mode and resume normal operation.

### This VHF unit has the newly adopted channel numbering system.

- familiar 2-digit channel numbers like 79 & 80 have changed to 4-digits with the first 2 digits displayed in smaller font.

## 27. `SAILS AND RIGGING

### HOISTING THE MAIN SAIL

ORCA has a Square Top Mainsail. It is obviously best to head into the wind to take the load off the mainsail when furling / unfurling.



**It is very important to hold the boat straight into the wind and to have eyes on the square top head of the sail to avoid catching the battens on the lazy jacks.** The main halyard winch is at the port cabin top below the dodger, so visibility is extremely limited from that winch. There is a bit of a window when standing on the top companionway step and looking up through the dodger window.

Ease the boom topping lift so that when the sail deploys the leach of the sail is taking the load. This will allow for tight trim for upwind sailing.

### DROPPING THE MAIN SAIL

1. Flake the main halyard and lay it out in the cockpit so it can run freely through the clutch when released.
2. Take a couple turns around the winch and release the clutch.
3. Once the boat is headed straight into the wind take the wraps off the winch and try to drop the main rapidly and it should collect on top of the boom inside the lazy jacks.



**4. The dodger takes up a lot of real estate on deck. We find it easiest to move the boom to port and secure it with a white 1/2 line with a snap shackle (stowed in the port cockpit settee locker) that is clipped to the aft most mainsheet pad eye then tied off on the midship cleat. We then cinch the mainsheet to hold the boom steady for furling. This helps you gain access to the mainsail cover by standing on the cockpit combing to start the zipper at the end of the boom then you can work your way toward the mast folding the sail and zipping the cover.**

5. Remove the white line from the boom and center the boom with the main sheets.
6. Remove the main halyard from the sail and secure it to the shackle at the aft starboard base of the mast.
7. Snug the halyard and secure it with the clutch.
8. Snug the topping lift and secure with the clutch.

## HEADSAIL

Our genoa is a 110% and has good sail shape when fully deployed. Its size helps in lighter air, but during periods of heavier winds you may furl the headsail as desired. There are 3 white dots on the foot of the headsail that are reference points for reefing and reducing headsail power.

Please remember to unlock the headsail furling line clutch and keep moderate tension on the headsail furling line at the port side deck railing when deploying the headsail using the genoa sheets. This will help to prevent a “bird nest” on the furling drum and ensure the sail does not come screaming out when deploying. Similar tension on the genoa sheets should be used when furling “in” to prevent 'candy striping' of the furled sail.



When bringing the headsail in from a broad to beam reach to close reach or close hauled be cautious to ensure the clew of the headsail is inboard of the pulpit. Failure to do so can result in the pulpit bending or breaking and even worse tearing up the deck.

## REEFING THE MAIN SAIL & FURLING GENOA

If you are sailing downwind change your point of sail to close hauled and reef from a close-hauled point of view. If you are sailing downwind and would like to reef the headsail it is done best by driving down to blanket the headsail behind the main that takes load off and furl in on the headsail. Watch your point of sail when doing so and be careful of an accidental gybe.

## DEPOWERING & POWERING THE MAIN SAIL WITH GERMAN MAINSHEET SYSTEM USING THE BOOM VANG

On a modern sailboat with no traveler and a spectra bridal system the Boom Vang becomes a key component in mainsail trim and powering/depowering the main. On the Jeanneau 380 the boom is angled well above the cockpit. When using the Boom Vang remember that the boom is angled to your eye it may not look right when looking at the boom but when you look at the leach of the sail you will see more clearly the results of Boom Vang tension or easing.

To power the main up when sailing upwind we suggest putting the vang on to the desired setting to close the leach of the mainsail. The mainsheet itself when trimmed 1”-2” from “Two-blocking” the system brings the mainsail onto centerline nicely. However, at times the leach is open a bit and you will not want to trim the mainsail anymore as you do not want to “2-block” the system.



Use the vang to close the leach but be sure the boom topping lift is slack as it will prevent the vang from pulling down.

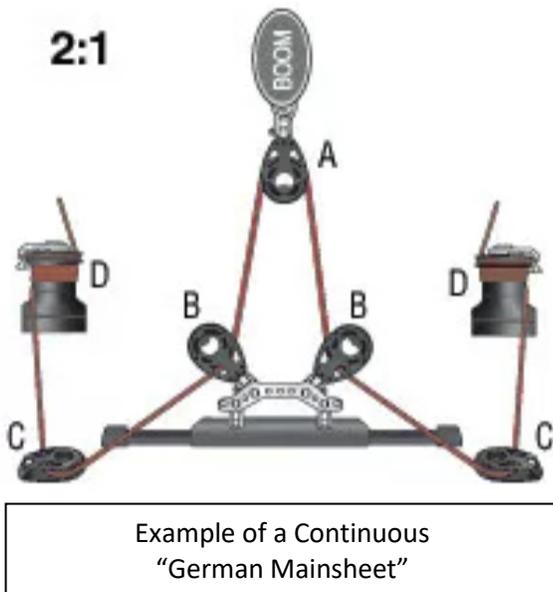
To depower the main when sailing upwind have the boom vang on and ease the main sheet. This will allow the mainsail to go down and close the slot between it and the headsail and is the exact same geometry as taking a deck mounted traveler and dropping it leeward with the mainsheet hard on. If it is gusty leaving the Boom Vang “on” and easing the main sheet in the puffs / trimming in the lulls is a good technique

When sailing downwind be sure to put the Boom Vang on to flatten the leach of the mainsail and keep the sail off the aggressive swept back spreaders.



**Never allow the boom to go out so far to rest against the shrouds of the rig. Use the boom vang and the mainsheet to keep the boom itself off the shrouds.**

## GERMAN MAINSHEET SYSTEM



Many new boats are deploying a “German Mainsheet” system where there is one continuous mainsheet that has ends terminate at both port and starboard side winches through the respective main sheet clutches.

- When sailing with a German Mainsheet system we like to **control the mainsheet with the windward primary winch and have leeward mainsheet “cleated” off with the winch or clutch.**
- **We control the genoa sheet with the leeward primary winch.**
- We recommend leaving the clutches open on the working main and genoa sheets with 3-4 wraps around the winch drum and then up over the thimble and into the self-tailer of the Harken winch itself. The self-tailer acts as the “cleat” and if you need to dump either main or genoa you simply pull the sheet out of the self-tailer and ease.



**On a German Mainsheet system start your sailing day by making sure the mainsheet is balanced with the same amount of line on each side. During your sailing day, if the mainsheet gets out of balance ease one side and pull the other to rebalance.**

When we tack *ORCA* we use a technique where we put the weather clutch of the mainsheet down to lock it while still sailing upwind and then take the mainsheet off the weather winch. We then load up the weather genoa sheet with only one wrap and leave the weather genoa sheet clutch down but pull out all the slack in the weather (lazy sheet). With the leeward genoa winch clutch still in the open position and 3-5 wraps on the winch with the sheet locked off in the self-tailer, we then take the leeward genoa sheet out of the self-tailer and hold it in one hand. After the headsail is done with its useful life we the unwind the old leeward genoa sheet and simply pull in on the new leeward sheet through the rope clutch. The new leeward genoa sheet rope clutch holds the sheet in place and after the tack we can then put 3-4 wraps around the new leeward genoa sheet winch and up over the thimble and into the self-tailer as the “cleat”. We then open the new leeward genoa sheet clutch. On the new weather mainsheet winch, we then put 3-4 wraps around the winch, over the thimble and into the self-tailer to “cleat” it off. We then open the weather mainsheet clutch and we are set on the new tack to be able to easily ease or trim from the winch.

When we gybe we always do controlled gybes on *ORCA* and we ask that you do as well. Controlled gybes are safer for the crew and they do not point load blocks, lines and winches so there is less breakage.

For a controlled gybe with a German Mainsheet system we use a similar technique by locking off the leeward jib sheet and giving the weather jib sheet a bit of “float” by opening the weather rope clutch and paying some line out. We then load the leeward mainsheet with 3-4 wraps onto the leeward primary winch up over the thimble and into the self-tailer. prior to the gybe but we leave the rope clutch “down”. From there we trim the main to centerline using the weather primary winch. Once the main is on centerline or very close, we gybe *ORCA* but the key is to let the mainsail out on the old leeward primary (new weather primary). This technique will keep the mainsheet in balance and under control as you change point of sail.



If a rope clutch is hard to open, ease the load by taking in a bit on the line with the winch and then opening the clutch. This eases the cam lock and allows for easy opening of a rope clutch

## 28. SHOWERS AND SUMP

Experienced cruisers know the sailor's shower: get wet, turn off the water, soap up, turn water on and rinse off.

Each shower has an independent sump pump which is switched on at the side of the sink. Each shower sump has a thru hull fitting under the sink fitting located in the shower area. Although the sump is below waterline, the thru hulls can stay open as there is a plumbed loop off the shower sumps that goes above waterline before exiting near the waterline. These pumps also have re-settable fuses (breakers) behind the 12v panel. If the pump is not working, check the resettable fuse.

There is a hot / cold cockpit shower fixture back at the swim platform. If it is nice weather in a secluded anchorage an outdoor shower is often the way to go. This cockpit shower is also useful for washing off shoes / feet/ lines etc. after returning from the beach. This fixture is located near the port swim platform barrel-bolt. The water pressure switch needs to be on and then the hot / cold dial needs to be toggled downward/ upward.



## 29. SWIM PLATFORM - TAILGATE

The Stern Platform (Tailgate) is raised and lowered with the block and tackle on the starboard side.

There are two barrel-bolts on either side of the stern platform that securely lock the platform in place while sailing. When lowering or raising the platform be sure that these barrel bolts are locked in the open mode.

When onboard it is ok to leave the platform down, it creates a great outdoor deck and seating area. When not onboard the boat, we ask that the platform be raised up especially if you are in an anchorage. Large waves may roll into the platform which may be lifted by the waves and then slam back down which is not good. When getting in and out of the dinghy use the platform for easy boarding for all but one person. The last person should raise the platform and board the dinghy by use of the white fender step (stored in the Starboard aft lazarette) tied onto the base of either side stanchion gates. When returning to the dinghy, one person should go up the fender step and back to the platform controls to lower the platform.



Port tailgate bolt in locked position.

## 30. POTABLE WATER

**Water pressure** - The freshwater pump switch is located on the electrical panel with a water tap icon. Please switch this off when motoring or sailing. You could burn out the water pump should one of the tanks run dry and you can also blow an entire tank of good fresh water if the pump is running and you do not know it. There is a green light in the lower right of the 12v panel icon that indicates that the water pump is on. The pump is located in the port salon settee locker should you need to inspect it.

**Water tank** - There is one 87-gallon freshwater tank. There is a digital water tank gauge on the Navicolor display panel, it indicates the percent of water remaining per tank. Both the fuel and water tanks have odd shapes that taper so the gauges do not read as accurately as we would like since for it cannot account for the taper. With that in mind we think the tanks are low when they read 25% remaining and start thinking about refilling.



The deck fitting for the water tank is on the starboard side next to the third stanchion from the bow. The fitting is marked “Fresh Water” and has a blue ring between the fitting and the deck.

**Water Heater** - operates by heat recovery from the engine cooling circuit or from shore power AC electrical supply. The water is heated with the main engine when running under load or in neutral above 500 RPM. The hot water is stored in a 10-gallon tank on the starboard side behind the engine compartment. Water is also be heated by 120v AC power when shore power is connected. The AC circuit breaker is behind the 2<sup>nd</sup> side cabinet in the aft port berth. **We leave this breaker and the other breakers on.**

## 31. COCKPIT CUSHIONS

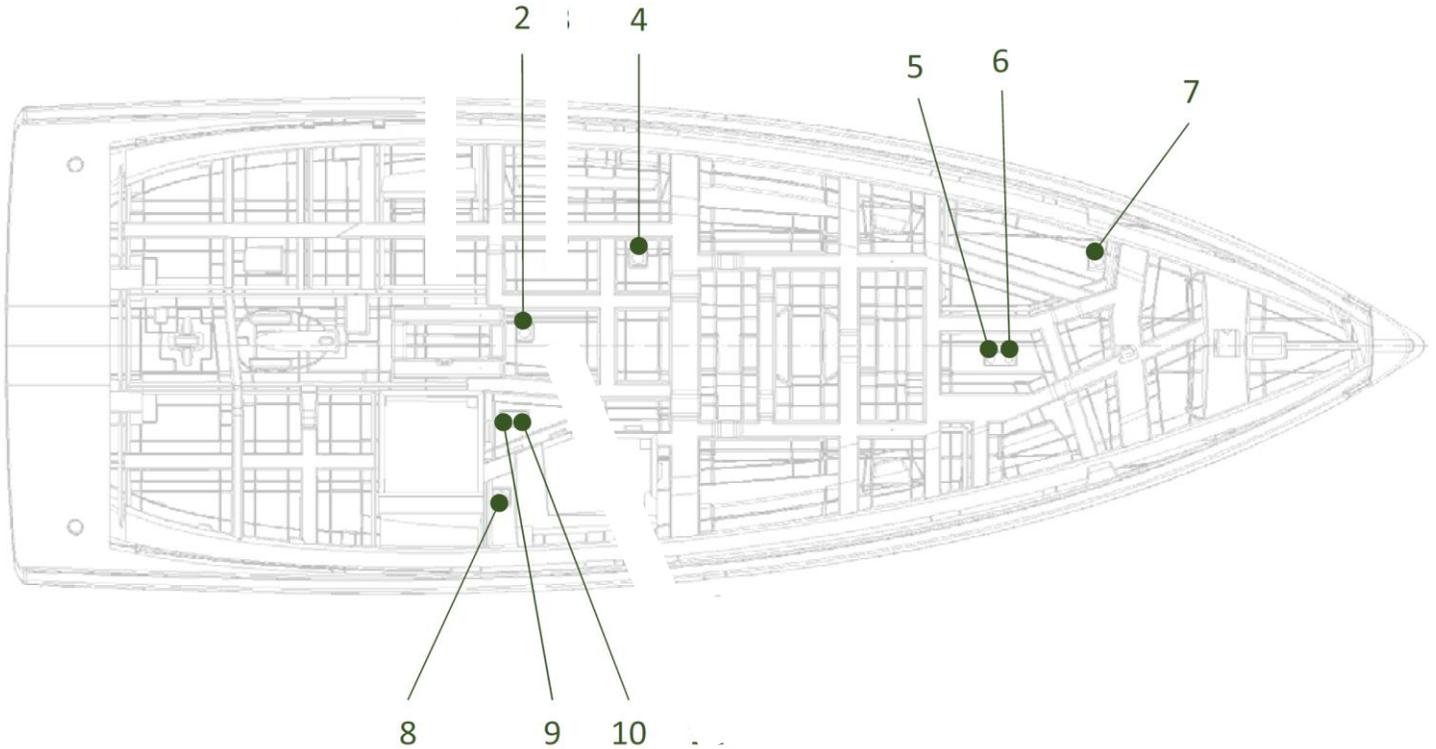
ORCA is equipped with factory cockpit cushions for both the seats and the seatbacks. There are 10 cockpit cushions including the back rests against the cabin and the aft helm seats.

Please be certain to strap the seat cushions and snap the seatback cushions. When not in use, please be sure to close the white plastic clips as they are easily snagged or broken when in the “out” position.



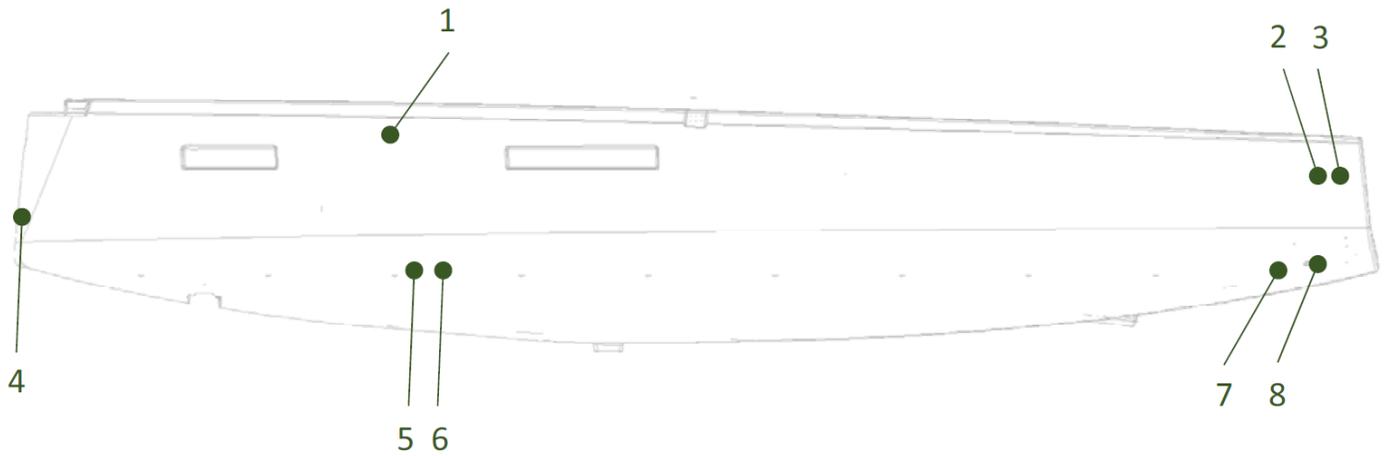
We find it best to turn the cushions upside in the cockpit before retiring so the cushions are not wet from dew/condensation in the morning.

# Through Hulls



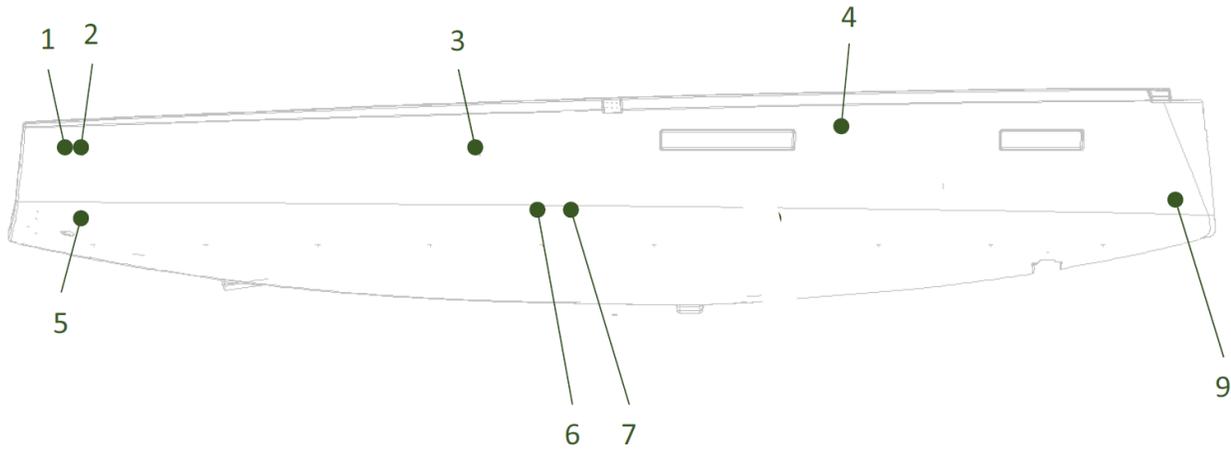
Reference	Designation	Valve
<del>1</del>	<del>Earthing plate - Inverter</del>	<del>No</del>
2	Engine water intake	Yes
<del>3</del>	<del>Seawater intake - Sea water foot pump</del>	<del>Yes</del>
4	Galley draining	Yes
5	Seawater intake - Fore WC	Yes
6	Electronic sensor	No
7	Sewage drainage - Fore WC	Yes
8	Sewage drainage - Starboard aft WC	Yes
9	Seawater intake - Starboard aft WC	Yes
10	Stern frame water intake for shaft seal	Yes
<del>11</del>	<del>Seawater intake - Air conditioning</del>	<del>Yes</del>

### View of hull, port side



Reference	Designation	Valve
1	Blackwater tank vent - Starboard fore WC	No
2	Manual bilge pump drainage	No
3	Electric bilge pump drainage	No
4	Drainage - Chain locker	No
5	Washbasin drainage - Port forward washroom	Yes
6	Shower pump drainage - Port forward washroom	Yes
7	Port Side Deck Drain	No
8	Engine exhaust	No

**View of hull, starboard side**



Reference	Designation	Valve
1	Thru-hull fitting - Heating	No
2	Fuel tank vent	No
3	Blackwater tank vent - Starboard aft WC	No
4	Water tank vent (Starboard forward)	No
5	Starboard side deck drain	No
6	Washbasin drainage - Starboard headroom	Yes
7	Shower pump drainage - Starboard headroom	Yes
<del>8</del>	<del>Air conditioning drainage</del>	<del>Yes</del>
9	Drainage - Chain locker	No

## NOTES FROM GUESTS FOR NEXT REVISION

We'd appreciate your feedback, thoughts, any corrections, or questions listed here to improve the Notes. Feel free to reach out to Bruce at **206-321-6202** or email **bobchinookllc@gmail.com** with your comments.