



**Information & operations manual for
Athena 38 2005
'Excalibur'**

Welcome



Welcome to Horizon Yacht Charters and your Athena 38 "Excalibur". We hope you had a pleasant journey and are looking forward to a fantastic holiday and some of the finest sailing in the world here.

This manual is here to guide you through the operation of your yacht. Please take the time to read this manual and don't hesitate to ask any of our professional, friendly staff if you have any questions.

All of the yachts in the Horizon fleet are maintained to the highest standards so that you may enjoy a trouble free vacation, on a beautiful yacht. Please remember that these yachts are all privately owned and we ask that you care for it like it was your own.

Best wishes for a great vacation,

Sylvia and Andrew
Directors

Office Hours:

Monday – Sunday 08:30 – 17:30

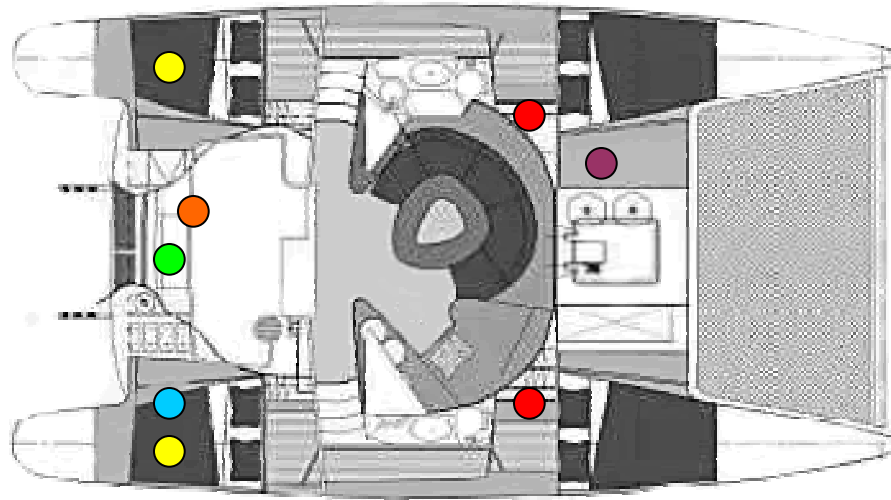
Telephone: (284) 494 8787

Duty Manager: (284) 542 8787 (Emergency Only)

Contents

- 1. Yacht specifications**
- 2. 12 volt and 110 volt panel; switches and breakers**
- 3. Inverter panel**
- 4. Engine start procedures**
- 5. Engine checks**
- 6. Instruments**
- 7. Using the VHF radio**
- 8. Batteries**
- 9. Anchoring and using the windlass**
- 10. Picking up a mooring buoy**
- 11. Bilge pumps**
- 12. Fresh water systems**
- 13. Heads**
- 14. Showers**
- 15. Refrigeration**
- 16. Using the stove and propane tanks**
- 17. The BBQ**
- 18. Fire safety**
- 19. The dinghy and outboard**

1. Yacht specifications



Length	38'
Beam	20' 6"
Draft	3' 3"
Fuel	52 gallons
Water	95 gallons
Engines	2-20 hp

Location of:

Interior:

- Engines (beneath port and starboard aft berths)
- Water change over valves (in port and starboard forward cupboards)
- Windlass fuse and battery switches (side cupboard, starboard aft berth)

Exterior:

- Manual bilge pump (cockpit)
- Propane tank (cockpit locker, beneath seating)
- Water tank refill (port side of mast)

2. 12 volt panel, 110 volt panel, switches and breakers

12v panel:

The 12 volt panel is divided into four sections, below is a list of the functions on each panel.

Lighting and accessories panel:

- Starboard/port hull lights
- Saloon lights
- Galley lights
- Fresh water pump
- Fridge
- Starboard/port shower drains
- Cockpit light

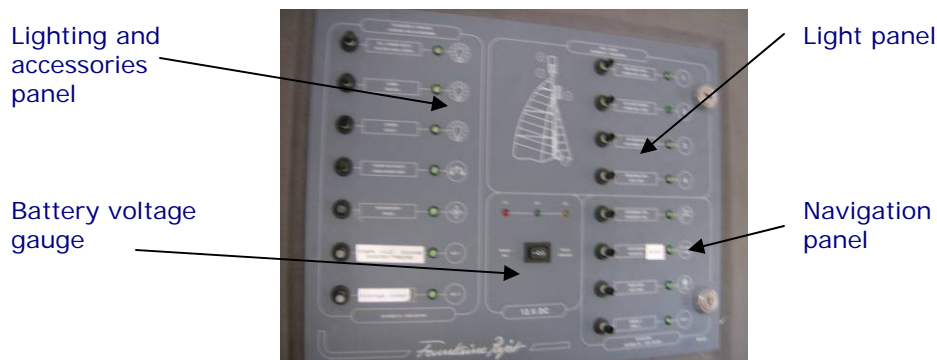
Lights panel:

- Sailing navigation lights
- Power navigation lights
- Anchor lights
- Deck lights

Navigation panel:

- GPS and VHF
- Autopilot
- Not in use

The fourth panel contains a toggle switch to test your port and starboard batteries.



110 volt panel

The following breakers are located on the 110 volt panel:

- Main breaker
- Water heater
- Cabin 110v outlets
- Galley 110v outlets



Always ensure that the main breaker is **on** and that the water heater is **off**. Water can be heated by running the engine when you charge your batteries.

The 110v outlets will operate when the vessel is connected to shore power or when the inverter is on. To operate the inverter, please see the next section.

Breakers

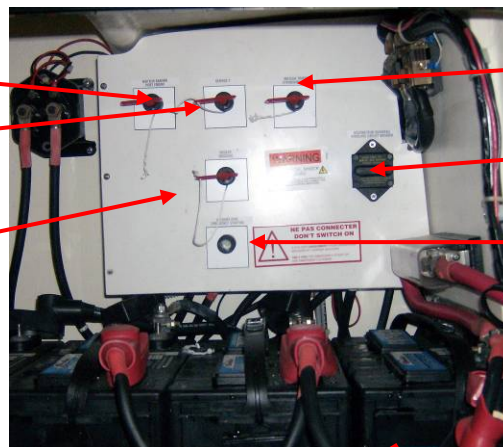
The following breakers are located in the starboard aft cabin:

- Port and starboard engines
- House batteries
- Negative (switching this off will turn off all the operations on the boat)
- Emergency start button. Press this button if the engine batteries are too depleted to start the engines.
- Windlass breaker

Port engine

House batteries

Negative



Starboard engine

Windlass breaker

Emergency start



Located in the closet in the port aft cabin is the main breaker switch. Please be careful when placing items on the shelf where the breaker is as it is easy to accidentally switch the breaker off.

3. Inverter

The Link 2000 panel charges the batteries when on shore power as well as activates the inverter.

Charging batteries on shore power:

Once connected to shore–power ensure that the main breakers are switched on and that the breakers on shore are also on.

On the Link 2000 panel press the ‘charge’ button so that the green light on the button is illuminated.

Check the status bar at the bottom of the panel and make sure that “AC in” is illuminated as this shows that current is coming through; and that one of the three battery status lights is illuminated as this proves that your batteries are charging.

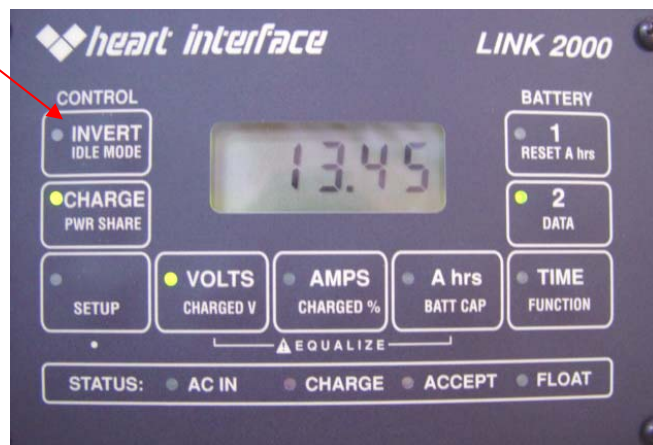
Before un-plugging from the dock power, press the charge button on the panel to turn off the charger; switch off the main breakers, (see previous page), as well as the breaker on the dock power outlet.

To use the inverter:

1. Start the engines; bring the rpm up to 1400.
2. Press the “invert” button under the control section of the panel. The green light on the switch will then illuminate.
3. On the 110V panel, ensure that the main and 110v outlet breakers are on. Leave the heater switch off.
4. All of the 110V outlets are now live.
5. Reverse steps 1, 2 & 3 to switch off the inverter, but run the engines for an extra ten minutes before switching it off to help replenish the batteries.

Always ensure that you have switched the inverter off by checking that the switch on the panel is no longer illuminated. Leaving the inverter on will cause your batteries to rapidly lose their charge.

Invert button



4. Engine start procedures



There are two engine starter panels on Excalibur, one for each engine. They are clearly labeled port and starboard engines.

- Make sure engines are in neutral before starting.
- Turn the key one turn to the right (an audible alarm should come on) and then turn the key further to the right to turn the engine on.
- When the engines are running check you have water coming out of the exhausts.
- To stop the engines press the stop button and turn the key back to the centre position

Should you hear an engine alarm during operation, check which light is on and immediately shut down the engine-**CALL HORIZON**

All our yacht engines run with diesel fuel. There is a diesel filler cap on the transom which is clearly marked "DIESEL".... **DO NOT PUT WATER OR GASOLINE IN HERE.**

The engine fuel gauge is located on top of the fuel tank in the cockpit locker:



5. Daily Engine Checks



- The engines on Excalibur are located beneath the aft berths in both hulls. Open the left side of the berth to access the coolant reservoir and oil dip stick.
- Check the oil level using the dip stick located at the front left of the engine. The level should be at least halfway between the empty and full marks. To add oil open the oil filler cap on the top of the engine.
- To the back right of the engine is the engine coolant reservoir. The coolant level should be between the maximum and minimum lines.
- Check for any engine leaks or bilge water below engine.

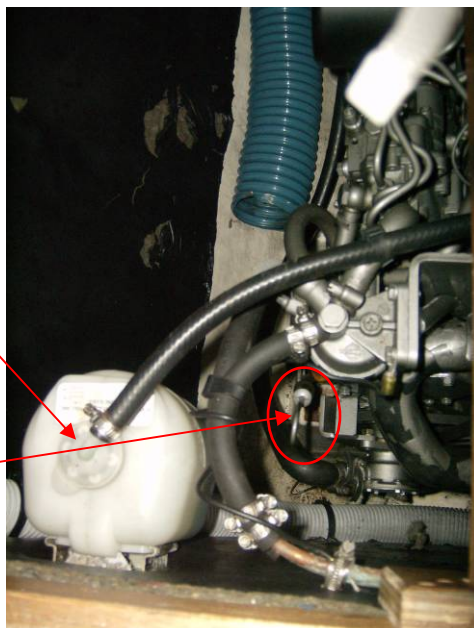
- Check the fan belt for any damage and correct tension.

KEEP HANDS CLEAR OF ALL MOVING PARTS.

ANY PROBLEMS CALL HORIZON

Coolant reservoir

Oil dip stick

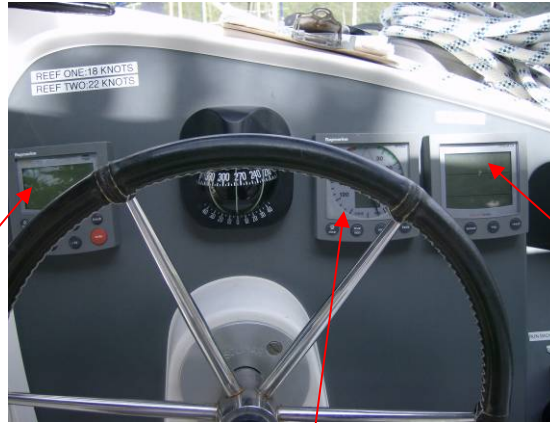


6. Instruments

Located at the helm 3 Raymarine ST60 instruments:



ST60+ Autopilot



ST60+ Wind Indicator



ST60+ Tridata

At the navigation station there is a Furuno GPS/WAAS navigator chart plotter and a Raymarine ST60+ Multi Graphic Display



7. VHF Procedures

Using the VHF radio:

Familiarise yourself with the method for switching channels, and with the squelch and volume controls on your radio. Most radios have a button to instantly select Channel 16 – ensure you understand how this operates or you could end up speaking on Ch. 16 when you think you are on some other channel.

1. Make sure the radio is switched on, volume quite high, power to high unless the station you are calling is very close.
2. Squelch up until loud hissing, and then back a little until the noise *just* stops.
3. Select the channel for calling (Channel 16, unless specified otherwise).
4. Press switch on microphone when speaking. Release immediately.

If no response then wait two minutes and repeat the call. If still no response, wait a further two minutes before trying again. If calling on Channel 16, it is very important to switch to a working channel after the contact is established. Do not use Channel 16 for your conversations – this channel is for hailing and distress only.

Channels to use:

- 16 Hailing and Distress
- 74 Contact Horizon Yacht Charters (when in range)
- 12 Yacht Charter Companies working channel – assigned for yacht breakdown servicing and emergency only
- 68 Marinas and Yacht Clubs – for lunch/dinner reservations etc
- 06 Ship to Ship – along with Channel 68 and 77 can be used for contact between boats

In the event that your vessel is involved in a non-life threatening incident with an object or with another vessel, it is important that you contact the Horizon Office immediately at 494 8787 or 496 0653. Please remember to get as much information as possible about your location, the other vessel's description and what damage has been done to your vessel so that we can best assist you.

Failure to report any accidents or incidents in a timely manner may result in nullification of your hull damage insurance.

Types of emergency:

In the unlikely event that you are involved in an emergency stay calm and follow these steps. You will also have an Emergency Procedure card next to your VHF.

Distress: "MAYDAY, MAYDAY, MAYDAY." This is an International Distress signal and an imperative call for assistance. It is used only when a life or vessel is considered to be in grave and imminent danger.

Mayday Relay: used to summon help for a vessel which is either too far offshore to contact the coastguard directly, without radio capabilities or whose radio has been damaged or destroyed.

Urgency: "PAN-PAN, PAN-PAN, PAN-PAN" This is the International Urgency Signal and is used when a vessel or person is in some jeopardy but is not considered to be in grave and imminent danger.

Medical emergency: "PAN-PAN MEDICO, PAN-PAN MEDICO, PAN-PAN MEDICO" (Pronounced med-ick-oh). This is an International Urgency Signal that should be used when medical advice is needed.

Safety: "SECURITE, SECURITE, SECURITE" (Pronounced Say-cure-it-tay). This is an International Safety Signal and is a message about some aspect of navigational safety or a weather warning.

How to issue an emergency message

Select Channel 16 and press transmit button on handset

Say slowly and clearly 'MAYDAY, MAYDAY, MAYDAY, CALLING ALL STATIONS

This is.... (vessel name)....' and repeat vessel name 3 times

Give position – vessel's position in degrees of latitude and longitude or nautical miles from, and bearing to, a navigational landmark

Describe emergency – list the problem, the type of assistance needed; number of passengers aboard (boat length, hull colour and type is also useful)

Wait 1 minute for a response, repeat message

ALTERNATIVELY: Dial either 767 or 999 from any BVI cell phone or call 494- HELP (4357)

8. Batteries

The systems on your yacht are all 12volt. The batteries will need to be recharged as often as you deplete them. Conserving power will result in less time needed for charging, so turn off systems that you are not using.

Your batteries will charge when the engines are running at 1400rpms or more, whether sitting at a mooring or motoring to a destination.

- Check the battery levels and make note of them before charging.
- When charging your batteries whilst at anchor or on a mooring remember to engage neutral before increasing the engine rpms to 1400.
- We recommend charging the batteries for at least 3 hours per day; usually 1-11/2 hours in the morning and the same in the evening to ensure your systems will continue to operate throughout the night.
- Shut the motors off. Wait 15 minutes before checking the battery levels, (directly after turning off the motors they will remain in an excited state for about 10 minutes).
- The House system should come to rest at 12.8 v. and then slowly get lower. When the system gets to 12.2 you should start planning to re-charge the batteries soon.

NB: The more systems you use and leave on the more you will have to charge your batteries.

9. Anchoring & using the windlass

Setting your anchor:

Preparation:

- Establish a non verbal communication system from bow to stern, as with the noise of the engine and wind, verbal communication proves difficult.
- Tie the dinghy painter close to the boat at the bow or amidships to avoid wrapping it around the prop.

Location:

- Choose a clear area to anchor in, normally in 12 to 25 feet. A white bottom is sand and perfect for anchoring. A brown or green bottom will be grass, rock or coral. **Only anchor in sand.**
- Make sure that you are not on a lee shore; i.e. that the land mass is protecting you from the elements and that you are not being pushed onto the shore. **A lee shore is the most dangerous place to anchor your yacht.**

Action:

- Manually lift the anchor over the bow roller and feed the chain so the anchor is just above the water surface.
- Use the elements; approach from down wind or current, whichever prevails.
- Once the yacht is stationary use the electric windlass to drop the anchor. The elements will push you back and away from the anchor.
- Minimum scope is 5:1. In heavy weather you may want to increase that, always ensuring your swing area is clear of any obstacles.
- Engage reverse, slowly building up to 1500 rpm to really drive your hook into the sand.
- Once set, put the engine in neutral and allow the yacht to settle, take transits around the bay to ensure you are not dragging, it is always advisable to snorkel the anchor and ensure it is bedded in correctly and not just lying on its side.

Attaching the snubbing line:

- Once you are happy that the anchor is set you must attach the snubbing line. The snubbing line protects the windlass and it is important that you attach the snubber every time you set the anchor.
- Attach the hook around the chain link (the hook is too big to go through the link) and cleat off the bitter end of the line to a bow cleat. Pay out enough chain so that the snubbing line becomes taut.
- If the hook falls off the chain it means that there is not enough tension on the line. In this case re-attach the hook and pay out more chain until the line is once again taut.

Setting a secondary anchor:

- If a second anchor is required, e.g. you are anchoring in a mooring field and need to control your swing room, deploy the primary as above and attach the secondary at the bow. Drive the boat forward at a 45 degree angle to the primary. Once in line with the primary deploy the secondary and allow the elements to push you back. Increase astern to 1500 rpm to drive in the secondary. Snorkel over the anchor to ensure a good hold.

There is a breaker that will trip if the windlass gets overloaded, this is located in the starboard aft cabin. If the windlass is not operating and the breaker has not tripped, the problem may be that the yacht battery power is too low to run the windlass. Please run the engine @1500 rpm for 15 min, and try again. If the windlass still refuses to operate, please call Horizon.

Manual operation of the windlass



If you lose power to your windlass, start the engine and give it some revs, to make sure you have not just got a low battery voltage. Then make sure the windlass breaker with the anchor icon is in the 'on' position on the 12 volt panel. If there is still no power, check the location of the windlass fuse and make sure this has not tripped out. If you still have no power, you can operate the windlass manually. To drop the anchor, secure the windlass handle onto the wing nut on the side of the windlass.

Pull back on the windlass handle to loosen the wing nut.

Your anchor is now ready to drop.

Remove the safety line or safety pin, and push the anchor over the bow, keeping hands and feet clear. Control the rate the chain pays out by tightening or loosening the wing nut with the handle. When you have paid out sufficient chain – 5 to 8 times the water depth, push the handle forward to tighten the wing nut. Increase revs to 1500 rpm, to set the anchor. If you drag, pay out more chain, and re-try 1500 rpm in reverse. When the anchor is set, fit the snubbing line, and cleat it off, then release the chain on the gypsy as above, so that the load is taken up on the snubbing line.

To haul the anchor back up, inset the windlass handle into the hole on the drum located on the opposite side of the windlass and ratchet the handle back and forth. Alternatively you can haul the chain by hand.

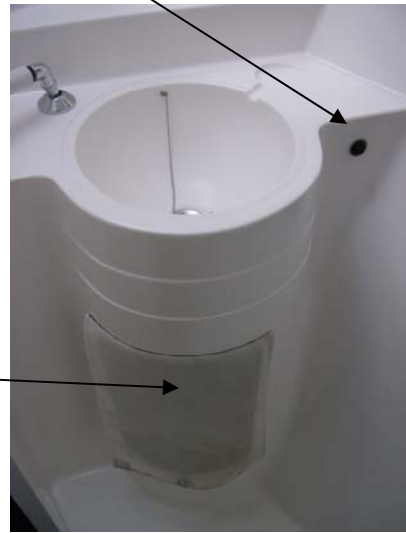
10. Picking up a mooring buoy

- Ensure dinghy painter tied off short on the bow or amidships and clear of the props.
- Take two dock lines to the bow and attach one line to each bow cleat.
- Approach mooring buoy, keeping the bow into the wind or current, whichever prevails.
- Have a crew member on the bow to pick up the mooring pennant with the boat hook.
- The bowman will direct the helmsman to the mooring, using the already established non verbal communication system. Once at the mooring, inspect the buoy and pennant for any signs of wear and tear - generally the overnight moorings are well maintained, the day balls to a lesser degree. If you are ever unsure about a mooring buoy's integrity, choose another location to moor up.
- Pass the dock lines through the eye of the mooring pennant; double them back and secure to the cleats.
- Once set you will have a two line bridle around the bow of the boat holding the yacht head to wind.
- Now set up a back up line by attaching a dock line to the mooring buoy. Attach a third dock line to the shackle or 'D' ring on the top of the mooring buoy or secure the line around the chain using a bowline. It is easiest to do this from the dinghy.
- To depart, release the back up line and stow on board. Slowly motor forward to release the tension in the dock lines; untie from the cleats and pull through to release the mooring pennant, allowing it to drop in the water. Fall back with the wind or current, and be careful not to foul your props on the pennant or surrounding moorings.
- **Remember to tie your dinghy away from the stern whenever you are maneuvering in close quarters.**

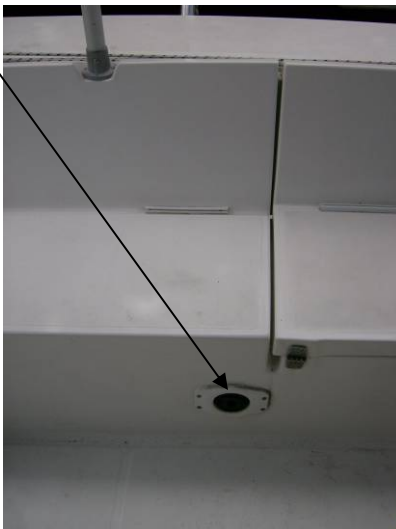
11. Bilge Pumps

Your yacht is equipped with one manual and one electric bilge pump. The electric pump is operated via the shower drain switch on the 12v panel. To operate the bilge pump follow these steps:

- Turn on the shower drain switch on the 12 volt panel
- Locate the shower drain/bilge pump valve beneath the sink in the head.
- Turn the valve so that it is pointing upwards.
- Press the shower drain button located just below the sink until all the water in the bilge has been sucked out.



The manual pump is located in the cockpit and its operation will be demonstrated to you during your briefing.



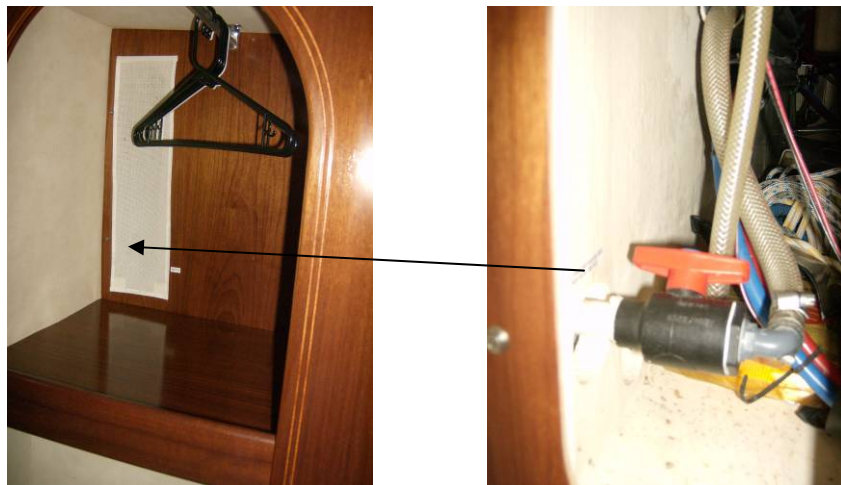
12. Fresh water system

Excalibur is equipped with two water tanks with a capacity of 95 gallons split between the two.

Before filling the tanks let the water run from the hose for a while before placing the end into the filler. The filler holes are located either side of the anchor locker. Please ensure that the correct fillers are used, NOT the holding tanks or the diesel fill.

To use the fresh water system, turn on the fresh water breaker on the 12v panel and open a faucet. When the tank runs out of water the pump will run at high speed and the faucet will start to cough air. As soon as you hear the pump running continuously, check to see if anyone is using water. If not, switch off the pump immediately to prevent the pump from drawing more air into the system or the pump overheating.

There are two separate water valves to open each water tank. These are located at the back of the closets in the forward cabins of each hull.



It is advisable to switch between tanks every 2-3 days as this will help to keep the boat level. Using all the water from one tank only will cause the catamaran to heel towards the full tank, thus affecting the catamaran's performance.

To switch between tanks:

- Switch off the fresh water pump
- Turn off the tank being used and turn on the tank in the other hull. The red valve should be in line with the pipe to switch the tank on. The valve is closed when the valve lies 90 degrees across the water pipe.
- Switch on fresh water pump.

Re-pressurizing the fresh water pump:

In the event that you run completely out of water the fresh water pump will not be able to prime itself and you will hear it running continuously. Fill your water tanks and perform the following steps.

- Ensure you have opened a tank that contains water
- Switch on the fresh water pump
- Open cold water faucet and purge system of air, approx. 45 seconds
- Turn off faucet, pump will continue to run until adequate pressure has built up to operate pressure switch to cut the pump out.
- If pump does not cut out, it may be necessary to repeat the purging process and open other faucets
- If you have any problems, call Horizon.

We have installed a second, spare fresh water pump to cut down any delays to your charter due to pump break-down. To use the spare pump, simply flick the electrical toggle switch between pumps and purge air out of the system as above.

13. Heads

- Nothing is to be put down the head unless it has been digested first, with the exception of 3 sheets of paper.
- Prior to use, move the lever to wet bowl to add water - 4/6 pumps.
- Move lever to dry bowl to pump out waste; this must be done when you are more than 1000 yards off shore.
- Move lever to wet bowl to flush the pan and pipes, 20-25 pulls will keep your heads smelling fresh.
- Move lever back to dry bowl and pump the pan and pipes dry, the lever must be left in dry bowl as leaving it in wet bowl will ingress water.
- Wherever possible please use the heads ashore as this keeps our waters nice and clean.
- **Blocked heads will be cleared at a cost to you of \$120.00 sewage fee, plus a technician's fee of \$60 per hour and the call out fee.**



14. Showers

Your yacht has a hot & cold, fresh-water shower in each head and a cold water shower on the transom.

If the engine has been running, the hot water can be very hot – be cautious!

In order to use the showers, the fresh-water pump must be activated on the 12V panel. The fresh water pump needs to be on for the shower pump to operate.

Shower drain

To operate the shower-drain pump, switch on the shower drain switch on the 12v panel.

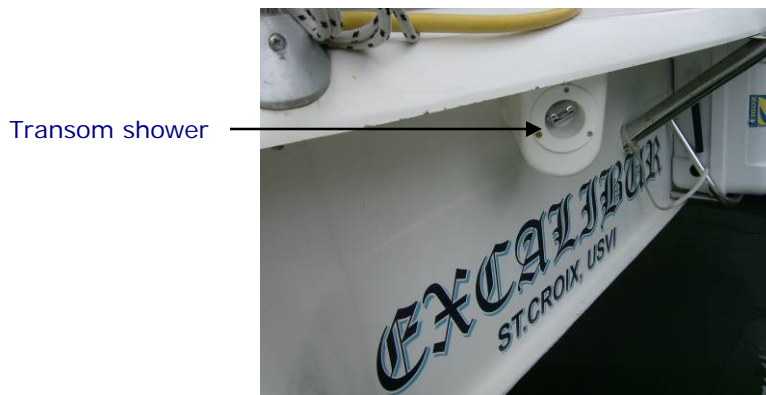
Ensure that the red lever located beneath the sink is in the correct position (pointing downwards as shown in the picture below) for draining the shower.

Press the black button located just below the sink to drain the water



Transom Shower

To use the shower head simply pull it out and press the lever on the back. If no water comes out make sure that the 12V water switch is on, that the shower hose is not kinked (access form the cockpit locker) and that you have pressed the valve on the top of the shower head.



15. Refrigeration

The system on this boat is an upgraded 12v refrigerator. This system is designed to run 24hrs a day if you wish. To ensure that it does not fail there are two things you should do.

- Firstly, keep your batteries charged. If the level goes below 12v the system will malfunction. Refer to section 12 for charging instructions.
- Secondly, do not puncture the cold plate in your fridge! Do not chip at the ice or use any other sharp items in the fridge. If something is frozen to the side of the fridge do not force it away. Pour warm water on it if you need to melt the ice.

There is a thermostat in the fridge. It is a blue dial with numbers on it going from 1-7. Putting 7 at the apex of the dial is the coldest setting. Keep it on this setting until it is too cold. Then you can turn the system down or off if you wish. Or if it is not cold enough augment the system with ice.

Ask one of our staff for a deck cooler if you would like one for storing your drinks. It will keep the drinks cooler and the refrigeration colder, as people will not be going in it every 5 minutes for a drink.

Please note that we are in the tropics and we cannot guarantee that items will remain frozen when placed in the fridges and that fruit, vegetables and other fresh produce may have a shortened shelf life.

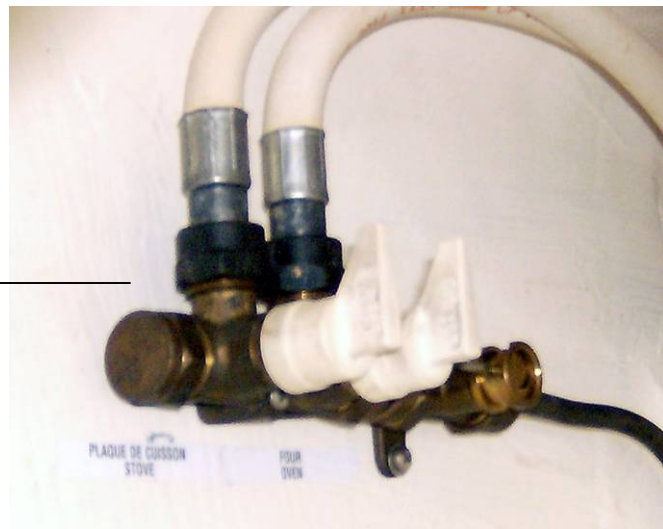


16. Propane and stove

The propane tank locker is located under the cockpit seat.

To use:

- Switch on the valve on the top of the propane tank.
- There are 2 valves beneath the galley sink, ensure these are also open.
- To light, turn the switch you want 90 degrees anticlockwise, push the knob in and light the burner.
- Hold the knob in for 10-15 seconds, then release. Make sure that the flame goes all the way around. Reduce any wind that may hinder this.



17. BBQ

- When using the BBQ, tie your dinghy off at the side of the yacht, not off the stern
- Never use the BBQ while sailing
- Never use the BBQ on a dock
- Never change propane tanks when using the BBQ
- Make sure someone is always tending the BBQ when hot
- Call us if you have too much food



18. Fire Safety

Prevention is the best answer to fire safety.

- Always switch off the safety solenoid when stove is not in use
- Never leave the stove or oven burning unattended.
- Never change propane tanks whilst barbecuing.
- Never smoke below decks.
- Never smoke when changing propane tanks.
- Safely store any flammable liquids (for example charcoal lighter fuel).
- Keep matches away from children.

Engine compartment fire:



In the event of a fire in the engine compartment use the fire extinguisher positioned closest to the cabin and position the mouth of the extinguisher to the fire hole.

- Pull the red key out
- Squeeze the handles until all the contents of the extinguisher have been discharged.
- Do not open the engine compartment even if you think the fire has been extinguished, dying embers can easily be re-ignited by a fresh supply of oxygen (air).

Open fire:

- Pull out the red tab.
- Point the extinguisher at the base of the fire and squeeze the handles together to discharge the contents.
- Generously cover the base of the fire and surrounding area to ensure the fire is under control and cannot spread. Continue discharging extinguisher until the fire is out.



Galley fire:

- Take the fire blanket out of its container. Read the instructions for use carefully.
- Ensure hands and limbs are protected from the fire by the blanket.
- Carefully lay the blanket over the fire, laying the blanket away from you and keeping yourself protected at all times from the flames.
- Once in place leave the blanket until all heat has gone from the scene of the fire, this way you can be sure that the fire has definitely gone out and will not re-ignite.

19. Dinghy & Outboard

The driver of the dinghy must be over 18, and must at all times be wearing the kill cord. Never operate the dinghy under the influence of alcohol or drugs.

- Always tow your dinghy on a short line while motoring and a long line while sailing, always tow with the engine leg up as it gives you an extra half knot.
- Most of the time it is fine to leave the outboard on the dinghy, but if conditions are very rough, the outboard needs to be mounted on the push-pit.
- When going ashore for an evenings entertainment allocate a dinghy captain, someone who will bring the whole crew back to the boat safely, allowing the rest of the crew to enjoy various local cocktails and concoctions.
- To start the engine, lower the motor into the water using the lever on the starboard side of the engine. The lever position corresponds to the motor position, up and fwd for towing and back and down for driving. Check you are in neutral and **the safety cord is in place**. For starting an engine that has been at rest for 3 or more hrs use the choke. Pull the choke out, and set a few revs with the throttle. Do not twist the throttle trying to prime the engine. You will only flood it. Face the engine and pull the start cord and push the choke back in as soon as it runs. If it runs for a second but cuts out, try again without the choke.
- To stop the engine, press the button on top of the kill cord, or pull the kill cord out.
- Keep the kill cord with you to prevent anyone from borrowing it. You have been provided a dinghy lock and cable. Use them.
- Do not drag the dinghy onto a beach; anchor it off or put it on a dock with a stern anchor to prevent damage from going under or hitting the dock.
- Do not speed in and around other yachts, speeding fines have been introduced.
- At night an all round white light must be displayed along with red & green side lights, and it is always a good idea to have a flashlight with you, to show the way, and warn other vessels of your presence.
- Wear the life preservers provided in the cockpit lockers when in the dinghy.
- GAS to OIL ratio, 1 Gall = 3 ounces.

