



**Information & operations manual for  
Lagoon 440 Catamaran 2008  
'Larimar'**

# Welcome



Welcome to Horizon Yacht Charters and your Lagoon 440 "Larimar". 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)*

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## 1. Yacht Specifications



LAGOON 440 version propriétaire

Length	44' 8"
Beam	25' 3"
Draft	4' 3"
Fuel	170 gallons
Water	240 gallons
Engines	2-53hp

### Location of:

- Engines (starboard and port aft cockpit lockers)
- Generator (beneath cockpit seating)
- Manual bilge pump (in cockpit)
- Propane tank (beneath cockpit seating)
- Water tank refill (port side of the bow seating area)
- Electric winch breakers (in saloon next to the 12v panel)
- Windlass breaker (forward locker opposite water tanks)
- Diesel refills (port and starboard transom)
- Fuel shut off valves (below the port and starboard aft berths)
- Air conditioning bleed valves (2 in starboard hull, 1 in port hull)

## 2. Electrical panels

### 12 volt panel and 110v panel B:



#### 12 volt panel, first column:

- Navigation lights
- Mooring light
- Steaming lights
- Deck light
- Cabin lights
- Saloon lights
- Instrument lights
- 12v DC outlets

#### 12v panel, second column:

- Fresh water pump
- Starboard bilge pump
- Fridge
- Confort (switches on the shower drains)
- Navigation instruments
- VHF
- Port bilge pump
- Not used

The water gauge checks the amount of water in your tanks. There are 3 tanks on board but they are all interconnected. Toggle the switch to check the level of tank 1; this will give you the overall level of water in the tanks. Toggling the other tanks will not give you a reading.

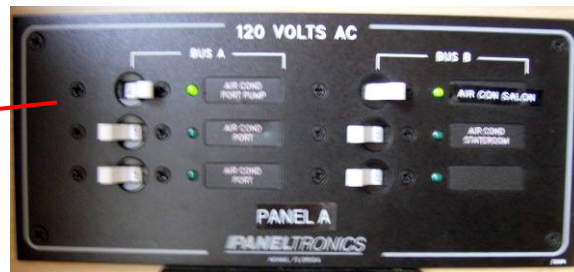
ECL tab – this illuminated the 12v and 110v panels

110v panel B:

- Water Heater
- Inverter/Battery charger (the inverter must be on to operate the 110v outlets)
- 110v outlets
- 110v outlets

These switches will operate when the vessel is connected to shore power or when the generator is running.

### 110v panel A and AC source selection panel:



110v panel A:

- Port air conditioning pump
- Port air conditioning unit
- Port air conditioning unit
- Saloon air conditioning unit
- Stateroom air conditioning

The 110 panels will operate when the vessel is connected to shore power or when the generator is running.

There are 2 selector panels; one each for 110v panel A and 110v panel B.

Make sure you have selected the option for the power source you are using



Selection for Panel A

Selection for Panel B

Battery switches are located beneath the berth in the starboard aft cabin



Emergency fuel shut off valves are located below both the starboard and port aft berths.

The electric winch breakers are located in the saloon beneath the generator start up. To reset the breakers simply flick the yellow lever to it's down position.



Breakers are on



Breakers have tripped.

The windlass breaker looks like the above breakers and is located in the bow locker, opposite to the water tanks.

### 3. Inverter

The inverter panel does three things: it charges the batteries, gives you the volt levels of the battery banks and it can be used to provide 110v power without the need to connect to shore power or run the generator.

To charge the batteries:

When plugged into shore–power, the “charge” button needs to be switched on; the green light will be illuminated. The “AC in” and one of the three inverter status lights should be illuminated in the status bar. If these are not illuminated check your shore power connection.

Before un-plugging from the dock power, press the charge button on the panel and switch off all the breakers on the 110V panel, (see previous pages), as well as the breaker on the dock power outlet. Do this process in reverse when plugging into dock power.

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. All of the 110V outlets are now live.
4. Reverse steps 1, 2 & 3 to switch off the inverter, but run the engines for ten minutes before switching it off.

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.



NB: The inverter panel will not operate the air conditioning unit; this is only available under generator power or shore power.

#### 4. Engine start procedures

You have two engines on your vessel, one to operate the starboard prop and one for port. You must switch on both engines to manoeuvre the vessel. Start one engine and then start the other.

- Make sure engines are in neutral.
- Turn on the engine ignition switches (an audible alarm should come on) and then turn the key further to the right to switch the engine on.
- Once the engines are running check you have water coming out of the exhausts.
- To stop the engines press the stop buttons until the engines stop.



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 IN HERE.**

## 5. Daily Engine Checks

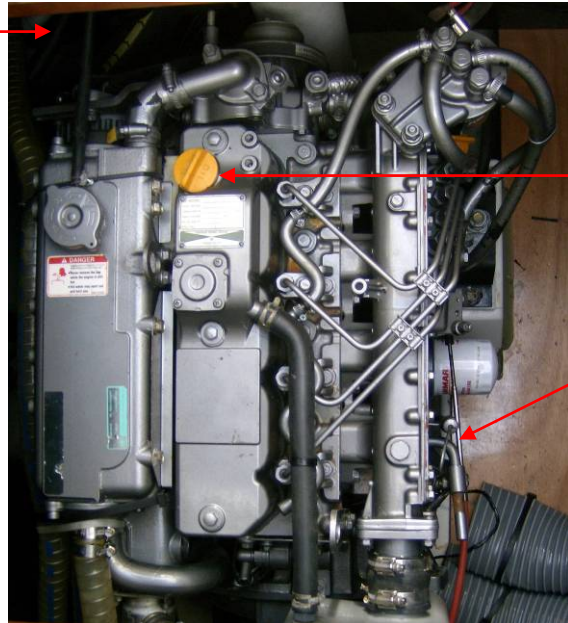
The engines are located at the transom, one in each hull. It is important that you complete the following checks on both engines.

- Check the oil level using the dip stick located on the right of the engine. The level should be at least halfway between the empty and full marks. To add oil open the yellow oil filler cap on the top of the engine.
- To the back left of the engine is the engine coolant reservoir (hidden from view on the picture). The coolant level should be between the maximum and minimum lines.
- Check for any engine leaks or bilge water below engine.
- Check the belt for any damage and correct tension.

**KEEP HANDS CLEAR OF ALL MOVING PARTS.**

**ANY PROBLEMS CALL HORIZON**

Coolant reservoir



Oil refill

Oil dip stick



## 6. Generator

Larimar is fitted with its own generator which will run the 110v outlets, the air conditioning and will also charge the batteries in place of the engine. The generator is located behind the seating in the cockpit and the starter is inside the saloon on the port side.

The reset breaker for the generator is located to the left of the generator, towards the back.



Main breakers for the generator



Oil dip stick



Inside the front panel of the generator

- Make sure the battery charger switch is on so that the batteries are charging.
- To use the 110v sockets you must switch on the converter and also the 110v outlet switches.
- The water heater will work when the generator is running; make sure this is switched off as soon as you have enough hot water.

To start the generator:

- Make sure all the 110v systems have been switched off prior to starting the generator.
- Make sure the shore power/generator breakers have been switched over to generator mode.
- Press the top of the "GenSet" switch and hold.
- After a slight delay the light on the switch will flash and go green, you will hear the generator start.
- Allow the generator to warm up for 5 minutes and then gradually load up the system, adding one load every 5 minutes.

Stopping the generator

- Press the bottom of the switch and release. The generator will close down.

**You must not run the generator when underway.**



Generator start and stop button. Press the top and hold until generator starts. Press bottom and hold for generator to stop.



Shore power/generator breakers. Make sure generator mode is selected prior to starting the generator.

## 7. Air conditioning

The air conditioning unit will operate when the vessel is plugged in to shore power and when the generator is running. Each cabin has its own individual air con unit and there is a 4<sup>th</sup> unit located in the saloon.



Operate the air conditioning as follows:

- Make sure the units are switched on at the 110v panel A. The air conditioning pump should be switched on first.
- Switch on the unit using the mode button
- Select "cool" via the mode button
- Select your base temperature using the + - temperature controls
- Select fan strength using the fan speed control
- To switch the units off press the mode button repeatedly (4 times to run through all the modes) until "off" is selected.

Load up the generator with one air conditioning unit every two minutes so that the generator does not overload.

### Bleed valves for the air conditioning units.



There are bleed valves fitted to each unit in case the system becomes air locked. If this occurs simply open up the bleed valve until the air is expelled and water starts to come out of the valve. Close the valve and start up the unit.

The valves are situated beneath the floorboards in the following locations:



Stateroom: before the shower room and central cabin floor



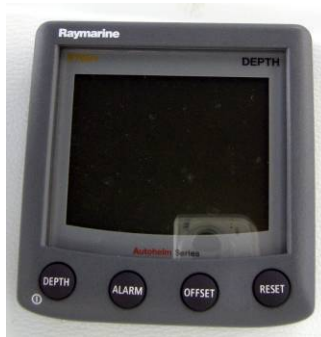
Port hull: beneath steps

## 8. Instruments

Located at the helm are the following Raymarine instruments:



ST6002 Smart Pilot



ST60+ Depth Gauge

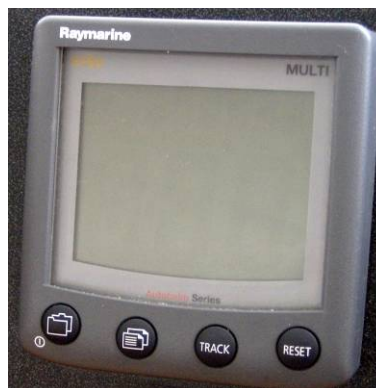


ST70+ Multifunction

Also located at the helm is a Standard Horizon GPS chart plotter CP120



At the chart table is a Raymarine ST60+ Multi Graphic Display



## 9. 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)**

## 10. Batteries

There are 3 ways to recharge your batteries.

Engines:

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.
- Run the engines at 1400rpms or more for 1-1 1/2hrs.
- Shut the motor off.
- Wait 5 minutes before checking the battery levels, (directly after turning off the motor they will remain in an excited state for about 10 minutes).

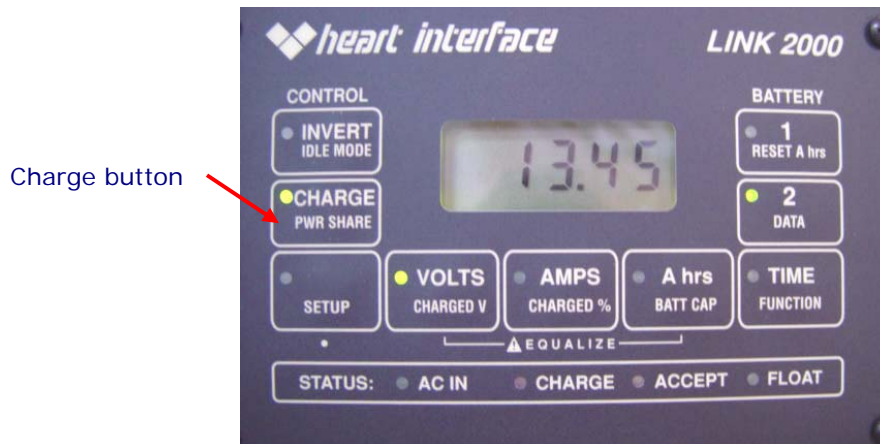
Shore power:

Ensure the battery charger button on the link 2000 panel is illuminated and that the 110v battery breaker is also on. The AC selector panels should be switched to shore power.

Generator:

Ensure the battery charger switch on the 110v panel is on. The AC selector panels should be switched to generator.

**In all instances ensure that the charge button on the link inverter panel is on as this starts the battery charger.**



## 11. Anchoring & 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.

## 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. If you still have no power, you can operate the windlass manually.



To drop the anchor, insert the windlass handle into the inner hole on the top of the windlass.

Turn the handle to loosen the gypsy, which in turn loosens its grip on the anchor chain.

Your anchor is now ready to drop.

Remove the safety line or safety pin, and push the anchor over the bow roller, keeping hands and feet clear. Control the rate the chain pays out by tightening or loosening the gypsy with the windlass handle.

When you have paid out sufficient chain, between 5 to 8 times the water depth, tighten the windlass back up. 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 then release more chain on the gypsy so that the load is taken up on the snubbing line.

To raise the anchor, put the handle in the outer hole on the windlass and turn. It can often be quicker if you pull the anchor up by hand as the helmsperson motors forward a little at a time, to give you slack on the chain. If you are fit and strong, it is possible to heave an anchor aboard, even on a 55 footer!

## 12. Picking up a mooring buoy

- Ensure dinghy painter tied off short on the bow or amidships and clear of the prop.
- 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.
- Attach the bridle to the pennant using the attached clip
- Once set you will have a bridle around the bow of the boat holding the yacht head to wind, remember to centralize wheel and lock in place to avoid the yacht sailing around the buoy.
- Now set up a second back up line. Go directly to the mooring buoy if possible. It is always easier to do this from the dinghy.
- To depart, slowly motor the yacht forward to create slack, release the clip from the pennant and allow the pennant to drop into the water. Fall back with the wind or current, and be careful not to foul your prop on the pennant.
- **Remember to tie your dinghy away from the stern whenever you are manoeuvring in close quarters**

### 13. Bilge Pumps

Your yacht is equipped with two manual and four electric bilge pumps, one in each hull and one in each engine compartment. The bilges are operated by switches located on the 12v panel. The manual pumps are located in the cockpit and will be pointed out to you during your briefing. It is important that you check all the bilges once a day.





## 15. 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.**



## 16. Showers

Your yacht has a hot & cold, fresh-water shower in each head and 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. There are 2 fresh water pump switches, one for each hull. Ensure the relevant switch is on for the shower pump to operate.

To operate the shower-drain pump, make sure the shower drain switch is on. There are two switches, one for each hull. The shower drains are manual, so once some water has collected in the bottom of the shower you must press the drain button until the water has drained away. The button is located next to the head.

### Transom Shower

The valves below the shower head will switch the water on and also control the temperature of the water. The red valve controls the hot water and the blue valve the cold water.

To use the shower head simply pull it out and press the button on the back. If no water comes out make sure that the 12V water switch is on, that the shower hose is not kinked and that valves are open sufficiently.



## 17. Propane and stove

The propane tank locker is located in the cockpit beneath the seating on the starboard side of the boat.

To use:

- The LPG solenoid is located on the right just as you enter the saloon from the cockpit. Press the "on/off" button to open the solenoid.
- To light, turn the knob you want 90 degrees anticlockwise, push the knob in and light the burner using the matches provided.
- 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 by closing hatches or switching off fans.
- Light the oven in the same way, pressing the knob in whilst holding your match to either the top or bottom burner. The stove is also equipped with a timer.
- If you cannot get it to light, check the tank is open. Keep in mind that it can take up to a minute to charge the lines.
- Once you have finished using the stove make sure you switch off the solenoid.

The 12v solenoid system is USCG approved device. You do not need to shut any manual valves unless you wish.



To switch on the propane solenoid, press the "on/off" button.

There are two propane sensors, one in the starboard cabin and one in the port. To test the sensors press the two middle buttons. A green light indicates the sensor is working.

The last button silences the alarm.



## 18. Refrigeration

There are 2 upgraded 12v refrigerators and a freezer onboard your vessel. 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.

Each unit can be individually controlled using the thermostats located in each unit. On your arrival the dials will all be set to their coolest setting. Keep it on this setting until all your food has chilled thoroughly. Then you can turn the system down or off if you wish. Or if it is not cold enough you can 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 fridge and that fruit, vegetables and other fresh produce may have a shortened shelf life.

The fridges and freezer are all self draining.

## 19. 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



## 20. 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 barbequing.
- Never smoke inside.
- 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 fire and position the mouth of the extinguisher to the fire hole.

- Pull the yellow key out
- Press down on the red button 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 yellow safety tab.
- Point the extinguisher at the base of the fire and press down on the red button to discharge 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.

## 21. 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.**

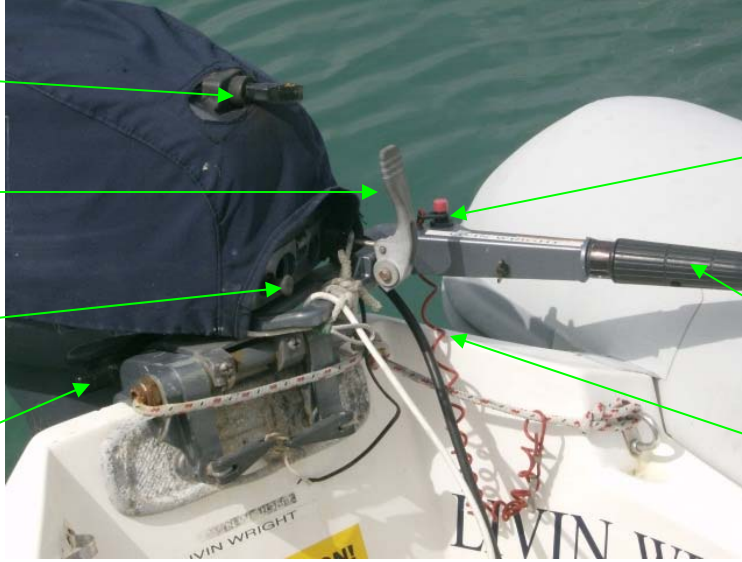
- Always tow your dinghy on a short line while motoring and a long line while sailing, always tow with the engine leg up as it gives you an extra half knot.
- If conditions are very rough, the outboard needs to be mounted on the push-pit.
- When going ashore for an evenings entertainment allocate a dinghy 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 gallon : 3 ounces.**

Pull cord

Gear Shift

Choke

Lever to lower  
and raise the  
outboard

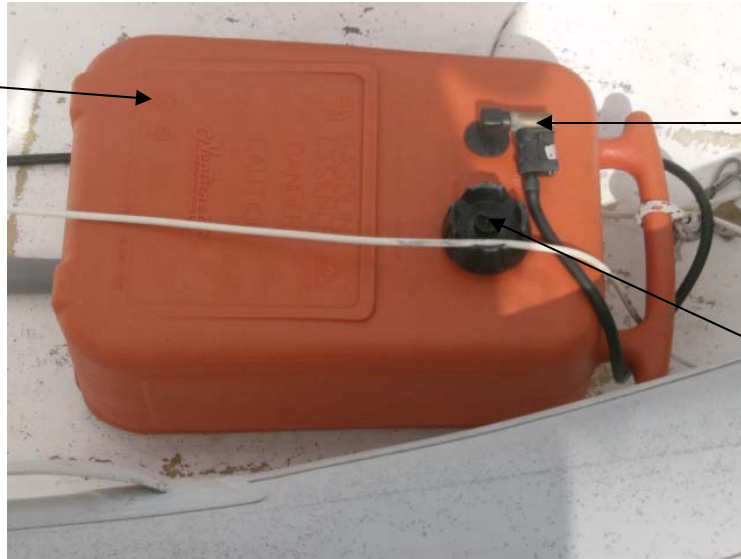


Stop button

Throttle

Kill Cord

Fuel tank



Fuel line  
connection; make  
sure this is  
securely attached

Fuel vent – make  
sure this is  
slightly open at all  
times