

## **OPERATION MANUAL**

# ***Windwalker***

Welcome Aboard!

We are happy that you have chosen Ship Harbor Yacht Charters and the vessel *Windwalker* for your vacation. We hope you enjoy your cruising experience in the lovely islands of the Pacific Northwest

This manual will help you become more familiar with your boat. If you have any further questions, about the boat or your itinerary, please do not hesitate to ask the SHYC staff.

Remember our vessels are non-smoking boats. But please feel free to smoke out on deck.

Bon Voyage!

The Ship Harbor Yacht Charters Staff

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# BOAT OPERATION

You will find equipment, general hull manuals and our ring binder with licenses, visual inventory locations and support information in the aft starboard cabinet of the salon.

## Engine Inspection

Remember your "WOBBS" every morning. (Water (Coolant), Oil, Bilges (Inspect and Pump-out), Belts, and Sea Strainer. Check the level of COOLANT in the expansion tank. Check the level of your engine oil with the dipstick. Your dipstick is located on the starboard side of the engine. Look at the etch mark on the dipstick that indicates proper levels. **DO NOT OVERFILL!** Fill only if oil level is below the ½ mark. Check the general condition of the hoses and belts.

Ensure the RAW WATER THRU-HULL is OPEN! (Lever in-line with valve). Check the sea strainer for debris. If necessary, close the thru-hull, open the strainer lid, clean out debris, and reassemble. **REOPEN the Thru-hull!**

## Start Up

Windwalker has a 29 hp Yanmar engine with a 3 bladed Maxiprop. The vessel cruises at 3000 rpms to a speed of 6 knots. Running your engine much above that will burn a lot more diesel at the gain of very little boat speed.

The boat has a definite prop walk to port in reverse with not too much noticeable effect in forward. When in reverse, be careful to keep a firm grip on the wheel. Use only low rpms in reverse. To Start follow this procedure:

1. There are TWO Power switches. First, on the electrical wall panel, turn switch to ALL. Second, turn power switch located starboard of engine to START.
2. Test battery voltage using switch on the electrical panel
3. Turn on engine key
4. With transmission in NEUTRAL put throttle to about 80% at wheel.
5. Push start button and don't hold more than 15 seconds. Maximum crank is 15 seconds rest 1 minute. **When engine fires throttle back immediately.**
6. After engine starts look over stern into water –check exhaust for water ejection.
7. Warm up engine at 1000 rpms for about 5 minutes.
8. After engine is running move both switches to ALL.
9. **NEVER TURN OFF THE IGNITION KEY WHILE ENGINE IS RUNNING.**
10. Turn the (2) through hull valves on (in head cupboard to Rt. of Door)
11. Check bilge pump, a little water is ok. There is an automatic level control on the small bilge pump below the salon table, and an additional larger pump in the same location with a control switch on the electrical panel.
12. Secure life ring on railing then loop around stanchion rope from sling.
13. Get weather report.
14. While running, check engine temperature. It should be under 200 degrees. There is no oil pressure gauge. Check temperature and oil pressure alarm on the start panel and make sure the toggle switch is on. The infra-red temperature sensor is available in the flare cupboard in main cabin.
15. **NOTE: If alarm sounds, look for idiot light explanation on the start panel, shut down engine, and look for the problem. Was there a lack of water exiting the**

exhaust? Are through hulls open and debris cleared from sea strainer? If problem keeps occurring call SHYC service.

## **REVERSE THE ORDER FOR SHUT DOWN**

Before shutting down, let engine idle for about 5 minutes to cool. Ensure the gearshift is in the neutral position and the throttle is in idle. Turn off the engines by;

1. Pull stop knob to turn engine OFF
2. Turn key to off and motor battery to off.
3. Turn main salon battery to #2.
4. Walk the boat for left items.
5. Check bilge

## **Getting Underway**

Disconnect the shore power cord (see AC Power next page). Close portholes, windows, and hatches. Turn on VHF and electronics. Assign crewmembers to their tasks. Put one crew member (the "dingiest" member of course!) in charge of the dinghy if it is under tow. It needs to be kept on a tight leash when in the marina. Once outside marina, have crew members bring in fenders and put lines away.

## **Cruising**

Slowly come up to cruising speed of 3000 rpms where you will cruise at approx. 6 knots, using only 3/4 gallons of diesel/hour. Using excessive rpms will only give you a 1/2 knot of speed and will only damage the engine. Speed will vary depending on weight, load, and weather conditions

## **Docking**

During docking, give clear instructions to the crew on what you will expect of them i.e. with lines and fenders. Always come into the dock slowly allowing for any wind or tide. If you have a choice, dock on the port side because as you put the transmission in reverse, she will pull to port sucking you in closer to the dock.

Have the bow, stern, and spring lines ready. If you are short on crew, lead the lines to the mid section of the boat (where it is fattest) where your crew member can easily step off with one of the lines, secure it, and quickly grab the next one.

As you are approaching the dock, have your crew call out distances to the captain (ie 20 feet, 10 feet, 3 feet etc.). This will help with a successful landing.

If you find you are too far from the dock, **DO NOT have your crew jump!** Back out and do it again. Disaster will follow if someone falls in the water.

## **Fueling Up**

You will need to fill up upon completion of your charter. Your fuel tank holds 30 gallons. You should have a rough idea of the number of gallons you will need to add to your tank. (ie you use 1 gal per hour and have run 18 hours = 18 gal.)

Open the fuel filler cap located on the transom with the key located in the Nav station or a winch handle. **MAKE SURE YOU HAVE DIESEL!** Make sure it is going into

the right deck fill! DOUBLE-CHECK! Before pumping, have your oil/fuel sorb ready to soak up any spilled fuel. Do not add water at the same time.

Put the **Diesel** nozzle into the deck fitting and pump slowly listening to the sound of the flow. Pumping too fast may not allow excess air to escape, which will lead to spillage out the vent. As the tank fills, the sound will rise in pitch or gurgle. Pay attention to the vent that it does not spill fuel into the water. Top off carefully, catching any spillage with your sorb. **We have had problems** with spillage from the vent and suggest you remove the starboard salon cushion to expose the fuel tank, unscrew the top plug and use the dip stick to measure the fuel level. Do not fill above the top mark on the stick. If using the cabin fuel level gauge do not fill above  $\frac{3}{4}$  full.

Check your gauges. Replace the deck fill caps and clean up any spatter and wash hands thoroughly.

## **BOAT ELECTRICAL**

The electrical system is divided into two distribution systems: 110 volt or AC and 12 volt or DC. The systems are controlled from the electrical panel located on the starboard side of the main cabin and the battery switches located on the starboard side of the engine compartment and on the main cabin electrical panel.

When not connected to shore power your batteries provide most of your electrical power. Always have your starting battery switch in the off position. Therefore the use of onboard electricity needs to be monitored very carefully. **Turn off electrical devices** when they are not being used (lights, instruments, etc.)

### **110 Volt or AC (Alternating Current)**

Shore Power supports all AC equipment and receptacles on board as well as the battery charger. We are set up for 30 amp service.

To connect to shore power, plug the power cord into the boat and then into the dock receptacle. Check your power rating/plug size of the dock receptacle (i.e. 30amp, 20 amp etc.) If necessary, add an adaptor located second drawer under the chart table. Secure the cord around the shore power electrical receptacle and off the bow (i.e. wrap around bowline a few times) turn the dock power breaker on.

On the boat, turn the shore circuit breaker on at the electrical panel. If the load exceeds the voltage, it will pop the breaker. If this occurs, wait to turn on one of your systems (i.e. water heater).

### **Inverter**

The inverter provides AC power to small appliances(i.e. computer or cell phone chargers)when the boat is disconnected from shore power. The actual inverter is located on the shelf above the chart table and plugs into the cigarette lighter. The Inverter is powered by your house batteries. The amount of DC power is **limited** to the capacity of these batteries so **use it very sparingly!!!** This means use of the toaster, hair dryer, microwave, coffee maker etc. can not be operated with our converter!

When connected to shore power, the battery charger charges the 12-volt house batteries. When under way the engine alternator charges the batteries.

## House 12-volt System

Two battery banks support your 12 volt system: #1 Engine Start and #2 House batteries, with #1 located just aft of the engine and #2 located under the seat just forward of the chart table. Normally you will leave the switches on ALL while running.

When anchored or moored, **turn off the #1 battery.**

Your 12 volt panel shows all the systems supported by your batteries. Primarily you will be turning on these breakers for lights, water pressure, electronics, etc. Your propane and secondary bilge pump breaker should be turned off after every use.

When disconnected from shore power, the 12-volt systems will drain the battery especially when at anchor. **Monitor your batteries very carefully.** The DC voltmeter on the DC panel can be switched between your battery banks to measure battery voltage. Typically the bank should read from about 13.0 to 14.5 volts when being charged. While at rest, your voltage will drop as indicated in the figures below.

All your batteries are charged while underway by the alternator. The engine and house batteries are charged by the battery charger while connected to shore power. Ensure that the charger is on. The breaker switch is on the cabin wall behind the chart table chair.

Voltage	Battery State of Charge		
12.65 volts	100%	12.25 volts	50 %
12.47 volts	75 %	11.95 volts	25 %
		11.70 volts	0 %

## SANITATION SYSTEM

### Marine Toilet (Wilcox Crittenden)

It is imperative that every member of the crew be informed on the proper use of a marine head. The valves, openings, and pumps are small and will clog easily. If the head gets clogged, **it is your responsibility!** Always **pump the head for small children** so you can be certain of what is being flushed. *Note: Never put in paper towels, napkins, sanitary products, household T.P., or food into marine heads.* **Use only marine T.P. provided by SHYC.**

To use toilet, move selector switch to the "wet bowl" position. Pump the handle 3-5 times to wet the bowl. After using head, pump to remove waste from bowl (approx. 20 times). Then return selector back to "dry bowl" position and pump for a few times until bowl is dry.

Your toilet raw water intake is located inside the aft head locker if you should need to shut off the water to the toilet.

Should the toilet squeak or be a bit sticky to pump, lubricate with a couple of squirts of dish soap, salad oil or head oil. Put in bowl and pump 2-3 times to get it to pump and leave overnight. Again, leave in the "dry bowl" position.

### Holding Tanks

Your sanitation holding tanks holds 25 gallons. Be aware of the rate of waste production (about 1 gallon/flush). If you overfill your tank, you will break a hose, clog a vent, or burst the tank **which is an indescribable catastrophe!** And a very **expensive fix for you.** Empty the tank at least every other day to avoid any problems.

The holding tank is located under the forward seat cushion of the salon table. There is no level gauge on this tank but may be tested by tapping on the side and listening to the change in sound.

The holding tank is emptied in one of two ways:

#1 At the pump-out station, remove the deck waste cap located port mid-ship on the deck. Insert the pump-out nozzle into the waste opening. Double-check that you have the right deck opening! Turn on the pump on the dock and open the valve on the handle of the hose. When pumping is finished, close lever on handle and turn off pump. Remove from deck fill.

If there is a fresh water hose on the dock, rinse the tank by adding water for 1-2 minutes. Then re-pump to leave the tank rinsed and clean for the benefit of the next charterer. Then add head deodorizer to the head. This also eliminates any head odors.

#2 The tank's contents can also be discharged at sea by using the macerator (Sealand pump). Depress macerator switch, and pump until pitch becomes higher indicating an empty tank. This should take about 2 minutes. *Note: Overboard discharge is only allowed in Canadian waters. It is illegal to discharge overboard within U.S. waters.*

## **Y-Valve**

The Y valve directs the flow of waste into the holding tank or directly overboard. The Y Valve is located under the forward seat cushion of the salon table. To flush directly overboard, move the handle in line with the overboard hose. Usually, because of Coast Guard regulations the Y- Valve will be wire-tied to the holding tank position. The Y valve is normally locked with the key in the chart table tray.

# **WATER SYSTEM**

## **Fresh Water Tank/ Pump/ Hot Water Heater**

The fresh water tank(s) holds 82 gallons and is located in the aft cabin. Use water from one tank at a time in order to know when you have use ½ of your supply. The water supply valves are under the sinks. Waste water from the sinks and showers drains overboard through various thru-hulls usually located under the sinks. To fill the tank, remove the deck water fill cap located on each side of the stern. Fill the tank avoiding flushing debris into the tank. **Do not fill water and diesel at the same time!**

The water pressure pump is located port salon table cushion. Activate the pump by turning on the breaker at the DC panel. If when in use, the pump continues to run, you are either out of water or have an air lock which can be corrected by opening a faucet. If you run out of water, shut off pump and **turn off hot water heater** on AC panel. **You can cause serious damage** to the heating element.

The hot water heater has a 6 gallon capacity. It is heated when the AC breaker is on while connected to shore power. Do not use the water heater if the water level is low. The water heater is located under the aft cushion of the salon table.

## **Shower**

Before taking a shower, make sure the water pressure and shower sump pump breakers are on. Take short "boat" showers by turning off the water between soaping and rinsing. Please wipe down the shower stall and floor when finished to keep shower tidy. Pick up any accumulation of hair in the drains as it clogs the hoses. Ensure that the faucets are tightly turned off after each shower to save water.

## **GALLEY**

### **Propane**

The boat is equipped with a pressurized propane system for cooking. The propane tank is located in the aft cockpit lazarette. Open the tank valve. Go to the electrical panel and turn on the house breaker. Then turn on the propane solenoid switch in the galley. When lighting the first time, allow a few seconds for the gas to travel from the tank to the stove. You might need to keep the stove top or the oven in the light position for a few more seconds while the thermo-coupler warms up. The oven pilot and the top burners are lit with a match or butane lighter.

To ensure safety, turn off the propane solenoid switch, the propane at the bottle, and the DC breaker when finished.

### **Ice Box**

The ice box will hold 6 blocks of ice and will last for 3-5 days depending on temperature and the amount openings.

## **HEAT**

The Newport diesel heater is located on the aft starboard corner of the salon.

### Diesel Heater Lighting Instructions

There is a separate fuel tank (red container) in the back lazarette for the fuel supply. To get fuel pumped up to the furnace there is a fuel pump located under the rear berth, just in front of the water tank. The "on - off" switch is located beside the rear berth, just behind the thru-hull/engine access door. For operation the "cabin light" switch on the electrical panel needs to be in the "on" position. You will hear the pump start "clicking" as fuel is pumped toward the furnace.

Continue with the typed LIGHTING INSTRUCTIONS NUMBERS 1-9.

Hint: Place one square of toilet tissue at the bottom of the chamber and light it with a match or lighter. We use this method and it works well. We also turn the fan on before we light the tissue.

1. Open the door and remove the burning ring and start the combustion fan.
2. Turn the oil metering valve ON and allow about 2 tbls of oil(a wet diameter the size of a \$.50 piece) into the burner.
3. Turn off the metering valve.
4. Light the oil with a piece of lighted tissue paper or the butane lighter.
5. Replace the burning ring and close the door tightly.

6. Turn the oil metering valve back on at a low level and adjust to maintain a flame to the top of the burning ring.
7. Leave the fan running while the heater is in operation.
8. Keep a low flame for the first 30minutes and then increase by small amounts to attain the desired heat.
9. Turn on the wall fan to distribute heat throughout the cabin.  
**Caution:Never light a flooded burner.**

#### Turning off the Diesel Stove

1. Turn off the diesel pump switch at the rear berth.
2. Turn off the oil metering valve of the heater
3. Let it burn out and the turn off the combustion fan and wall fan.

Electric heaters are also available when connected to shore power. Make sure the appropriate AC breaker is on.

## ELECTRONICS

There is a Standard VHF radios located in the Nav Station with a remote for the binnacle. Make sure the breaker is on at the DC Panel (electronics). Always monitor Channel 16 while underway.

There is a Raymarine Bidata depth sounder, Raymarine Wind Data and Garman 2410 Chartplotter located on the binnacle. The Wheel pilot controls are on the port side of the binnacle. Do not use the compass reading on the wheel pilot for navigation. To activate, ensure that the DC breaker is on. The sounder is reliable in waters less then 400 feet and at slower speeds. If your reading is blinking, it might be a false reading due to excessive depths or strong currents! Watch your depth carefully in cruising unknown waters that might have rocks or obstacles.

There is a stereo and AM/FM at the Nav Station.

## ANCHORING

Your primary working anchor, a 40# Bruce, is attached to 50 ft. of chain and 200 feet of line. It is marked every 25 feet.

Turn on the anchor windlass on the DC breaker next to the main DC electrical panel and proceed to raise and lower the anchor as needed. Be sure to always have your engines running. See page 11 in the White Binder for further anchoring instructions.

Turn off the breaker when finished.

A spare Danforth anchor is located in the bottom of the stern lazarette with spare rode.

## SAILS AND RIGGING

There is a 135% Jib on a roller furler. The furling line runs on the starboard side to the cockpit. To unfurl the headsail: #1 Uncleat the furling lines #2 Wrap the sheet around the appropriate winch #3 Pull the sheet aft while applying some tension to the furling line #4 cleat when it is fully out or when to point of appropriate reef .

To furl the jib, apply slight tension on the jib sheet while pulling in the furling line until there are 2-3 wraps of the sheet around sail. Jib sheets are led back to the cockpit to two winches. Adjust fairleads forward in heavy air, aft in light wind.

The Mainsail is raised manually from the base of the mast and has two reefing points. It is equipped with Lazy Jacks.

Jib sheets and traveler are all lead back to the cockpit. . There is a block and tackle boom vang. There is no spinnaker or whisker pole on board. Please use the topping lift located at the mast to raise the boom to its usual position after sailing.

Troubleshooting:

*Main resists being raised:* Check all lines. All reefing lines should be loose as well as the boom vang. Make sure a batten is not stuck as in a lazyjack. If so, lower the sail and try again.

*Furling line gets stuck:* Check the tension applied to the sheets. Try letting the sail out and repeating the process. Be sure you are headed into the wind. You also might have an override inside the furling drum.

*Unable to point with reef:* Maybe the reef line is not snugged in sufficiently. Be sure lines are snug before raising main halyard.

*Other Problems:* That's what being a sailor is all about! But isn't it nice when you kill that noisy engine and enjoy the sounds of the water.

## BARBEQUE

The Barbeque and mounting bracket are located on the stern rail.

Attach the propane bottle and regulator usually found in stern lazarette.

Carefully light the unit. This Barbeque cooks fairly hot and fast so keep a good eye on your food. Please wipe it down with a rag or paper towel when finished. *Note: Propane bottles are not stocked by SHYC so you will need to purchase a bottle if one is not found on board during your check-out. Ensure that outboard gas or any other flammables are not near barbeque.*

## DINGHY AND OUTBOARD MOTOR

Your 9 ft. Westmarine dingy is equipped with a 4 hp 4 cycle Honda engine. Use straight regular gasoline not mixed with oil. If not on the dinghy it is stored on the stern rail. It has a capacity of 1100 pounds or about 4 people.

To deploy the dingy,

Best practice is to inflate and deflate the dingy on the dock and install the engine on or at the dock. Inflation is done with a foot pump to 3-4 psi which will be the maximum pressure produced by the foot pump. The foot pump and the dingy gas tank are located in the aft lazarette. The dingy should be quit hard when you push against it. Pressure should be checked every 3-4 days. Next best is to inflate it on

the for-deck and lift it over the rail and slide it into the water while having the tie line connected to a cleet.

**Caution: This dingy has a soft inflatable bottom and sharp objects will tear it.**

After the dinghy is in the water and readied to go (PFDs etc), open the vent in the fuel tank and choke the engine once while starting. Make sure outboard is in neutral.

Please use extreme care in beaching your dinghy. Make sure the engine gets tilted up a safe distance from shore so the prop does not hit the bottom or shear the pin. Do not drag the boat on the beach. Please lift it up with your crew. Make sure it is secured as the tide comes in fast in these here parts.

When returning to the boat, leave your shore shoes in the cockpit and slip on your deck shoes or slippers to keep the boat neat and tidy.

## **OTHER NOTES**

Safety should be paramount to your daily cruising. A man overboard drill (person?) should be discussed and practiced with an unlucky PFD as the victim. (please rinse and dry afterward before stowing). Remember that your lifejackets are stowed in the stern berth cabinet. A few should always be readily available. Flares and other safety equipment are located behind the cushion in front of the chart table.

Always have a sharp lookout posted for logs, deadheads, or other flotsam and jetsam. A log hitting your prop can ruin your vacation. As you are traveling, the debris does seem to gather along current lines. It is sometimes best to go around these areas and miss the "mine fields".

Windwalker is equipped with the following bilge pumps: one small automatic, one larger manually operated(at the main DC breaker panel). If you continually hear the bilge pump running, **check your bilge and the electrical panel switch!** You may have a serious problem!

An auxiliary hand-operated bilge pump is located at the captain's station and operated by a handle located in the stern lazarette. This is used in an emergency situation.

The engine spares are located a starboard cabinet in the salon. They include extra oil filters, impellers, fuel pump, head pump, etc. Extra oil and coolant is located in the aft bench of the stern berth

Crabbing is fun but requires the correct license and season. Please be sure not to crab off the stern as the crab line can easily get tangled in your prop as you swing with wind or current. You certainly don't want to be the person who has to dive over and cut the line out of the propeller. It is best to use the dinghy to set your crab pot/ring away from the boat. A partially open can of seafood catfood works well as any other bait and is less messy. Please clean up any seaweed or crab shells afterwards to keep the boat neat and tidy.