

Operations Manual

Missy Jo

Welcome Aboard!

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

We have named all our boats after our children and now our grandchildren. We were to our third and fourth granddaughters Missy and Afton Jo, so the boat is named the Missy Jo.

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 feel free to smoke outside the boats enclosures.

Bon Voyage!

The Ship Harbor Yacht Charters Staff

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Boat Operation

Engine Inspection

Remember your “WOBBS” every morning. (Water (Coolant), Oil, Bilges (Inspect and Pump-out), Belts, and Sea Strainers. Check the level of the coolant in the expansions tanks. Check the level of your engine oil with the dipsticks. Your dipsticks are located on the inside middle of each engine right at the engine room servicing floor level, they are big yellow dipsticks. Look at the etched mark on each dipstick that indicates the proper fill levels. **DO NOT OVERFILL!** Only fill if the oil levels are below the ½ mark. Check the general condition of the hoses and belts. [Check the generator as well.](#)

Ensure the valves on each RAW WATER THRU-HULL are OPEN! (Lever in-line with valve). Observe through the glass of each 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

Having finished your inspection, start your engines by turning the engine keys (located in the electrical panel in the salon) clockwise, an alarm will sound until the engines have been started from the fly bridge. Once up at the helm on the fly bridge, ensure that the gearshifts are in **neutral**, the engines will not start until the gearshifts are in neutral. (neutral lockout) The engines preheat when the keys are turned on. To start motors, push the start switches down for 5 – 10 seconds to engage the engine. If the engine does not turn over, move the gearshifts slightly until the engine engages. If engine cranks slowly check the condition of your batteries in the electrical panel. If the battery is low, engage the Battery Parallel switch located next to the start switches, make sure the Battery Parallel switch returns to the off position when done.

After the engines start, warm it up at about 1000 rpms for about 5 minutes. Observe your gauge readings. Oil pressure reads around 40 psi and water temperature around **195 degrees**. Engine temperature should rise very slowly. Operating temperature is around 180 degrees.

Note: If water temp. is high or oil pressure low, shut down engine and look for problem. Was there a lack of water exiting with the exhaust? Are Thru-hulls open and debris cleared from the sea strainer? If problem keeps occurring, call SHYC Service.

Shut Down

Before shutting down, let the engines idle for about 5 minutes, letting them cool. Ensure each gearshift is in the neutral position and each throttle is in idle. Turn off the engines by pressing the stop switch the helm then turning the key off in the electrical panel.

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. Once outside the marina, have crewmembers bring in fenders and put mooring lines away.

Cruising

Make certain the throttles are in idle and engage the gearshifts. Slowly come up to cruising speed of 1400 rpms. If you run at 1400 rpms, you will cruise at approx. 7.5 – 8 knots, using 7.2 gallons of diesel/hour. Your speed may vary depending on weight, load, and weather conditions. Trim Tabs can bring the bow down to the cruising position. Watch your speed on the GPS as you adjust.

Note: Avoid high engine speeds as it causes the engine to overheat causing damage as well as high fuel consumption.

Docking

During docking give clear instructions to the crew on what you will expect of them i.e. with lines and fenders.

Ensure Trim Tabs are rocked back up for slow speed backing. While moving slowly towards the dock, center the wheel and use the gears and throttles to maneuver the vessel. Throttles should only be used in moderate to windy conditions. Otherwise, the use of the transmission should be sufficient. Bow Stern Thruster controls are located on the right side of the helm. To turn on the thruster's press both ON button's together for a few seconds, they will stay on for about 5 minutes. To operate thrusters, press the thruster handle right or left at the top of the handle to move the bow right or left, and the stern can be moved by pressing the bottom of the handle right or left. The bow and stern can be use together by pushing the whole handle right or left.

Fueling Up

This boat has a starboard and port fuel tank that combined hold 250 gallons of Diesel.

To fuel: open the two diesel fuel caps located just outside the glass doors on the starboard and port sides, with the deck fitting key that is located in the electrical panel in the salon. **MAKE SURE YOU HAVE DIESEL** Make sure it is going into the right deck fill! **DOUBLE-CHECK!** Before pumping, have several oil fuel sorb rags ready to soak up any spilled fuel. You should have a rough idea of how many gallons you will need, but have someone check the fuel gauge periodically by turning on the key.

Put **DIESEL** Nozzle into the deck fitting and pump slowly listening to the sound of the flow. Pumping to 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 in the water. The vents for the fuel tanks are located lower then where you feel the diesel, make sure to listen near the vents so that you can stop fueling before its starts to overflow out of the vents. Top off carefully, catching any spillage with your sorb.

Check your gauges. Replace the deck fill caps. 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 DC. The systems are controlled from the electrical panel located on the aft wall of the salon. The battery switches are located in the bottom cabinet below the electrical panel.

When not connected to shore power your batteries provide most of your electrical power. 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.

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. 30 amp, 20 amp etc.) If necessary, an adapter is located under the fly bridge port side seating. Secure the cord around the shore power electrical receptacle on the stern stairs and off the stern. There is a hatch located on the swim deck that can be opened and the cord placed in so that you won't be tripping on the cord, turn the dock power breaker on. Once the shore power is hooked up and on if you are still not getting power to the electrical panel on the boat, check the circuit breaker that is located in the aft port closet to make sure it is on.

On the boat, turn the shore circuit breaker on at the electrical panel. Turn on appropriate breakers for battery charger, refrigeration, water heater, and inverter. Watch your voltmeter for load. 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) until the use of power decreases

Inverter

The Inverter provides AC power to the 110 receptacles plugs (i.e. Microwave) when the boat is disconnected from shore power. The inverter does not supply power to the water heater or battery charger. The inverter panel is located port side galley above plug for the coffee maker. Make certain it is on. The actual inverter is located starboard side of the engine room forward of the starboard engine. The inverter also acts like a battery charger so make sure it is turn on when connected to shore power. The Inverter is powered by batteries located next to and forward of the inverter. The amount of DC power is **limited** to the capacity of these batteries so **use it very sparingly!!!** This means use of the hair dryer, microwave, coffee maker etc. must be limited.

Generator

To start your generator, first make sure the fluids have been checked and the raw water thru-hull is open. The generator controls are located in the top left side of the electrical panel. To Start the generator press down the start button and hold for 5 – 10 seconds, this will preheat and start the generator. Once the generator has started make sure your water and exhaust is exiting the stern.

After the generator is running, turn your AC distribution switch to generator (or ship) on the AC panel. This is a slide switch choice. Turn on your AC systems just as you do when hooking up your shore power (loading the system slowly). If you have been anchored for a while, turn on the battery charger first for 10 minutes. Too much load such as a water heater, stove top etc. may overload the system.

To turn the generator off, first take off the load by turning the AC breakers off. Turn of the main AC distribution switch. Last kill the generator by holding the stop button down until it shuts down completely.

Note: If the generator will not start from the electrical panel controls, open the engine hatch and check the breaker on the generator to make sure it has not tripped. You can also start the generator from the engine room.

House 12 Volt System

Six battery banks support your 12 volt system: #1 Port Engine Start #2 Starboard Engine Start #3 Bow Thruster Start #4 House Battery Bank #5 Inverter Battery Bank #6 Generator

Your battery switches are located in the cupboard below the electrical panel. Normally you will leave the switches in the on position. Note: Changing the position of the battery switches with the engine running **will cause damage!** Only change the position of the switches with the engine off.

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. Bilge pumps will always be left on.

When disconnected from shore power, the 12 volt system will drain the batteries 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 the 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/inverter while connected to shore power. Ensure that the charger is on as well as the inverter charger. The generator will also charge the batteries.

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

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 help 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 any marine heads. **USE ONLY MARINE T.P. provided by SHYC**

To use the toilet, make sure the heads are turned on at the electrical panel, as well as the fresh water pump. These vacuflush heads use your fresh water when flushing not sea water.

To operate: Lift pedal to add water to the bowl, after using the toilet, flush by pressing down on the pedal until the contents of the bowl are clear. A sharp popping noise is normal when the vacuum seal is broken and flushing begins. Generally it takes about 3 – 5 seconds to flush the toilet.

Holding Tanks

Your sanitation holding tanks hold 50 gallons. Be aware of the rate of waste production (about a gallon a 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 tanks at least every other day to avoid problems.

The holding tank is located in the engine room between the engines under the standing platform. A portion of it may be visible and can be checked with a flashlight.

The holding tank is emptied one of two ways:

#1 at the pump-out station, remove the deck waste cap that is located on the starboard deck floor just outside the glass doors glass door. Insert the pump-out nozzle into the waste opening. Double check that you have the right deck opening labeled WASTE! Turn on the pump on the dock and then open the valve handle on the hose. When pumping is finished, close the handle on the hose and then turn off the pump on the dock. Remove the pump-out nozzle from the deck fitting and replace the deck waste cap. Note: If there is a freshwater hose on the dock rinse the tank out by adding water for 1 – 2 minutes, then re-pumping to leave the tank rinsed and clean for the next charter. This also eliminates any head odor.

#2 the tank contents can also be discharged as sea by using the macerator (Sealand Pump). To operate the macerator, open the thru-hull located at the aft of the starboard engine, depress the macerator switch located in the electrical panel, then pump until the pitch becomes higher indicating an empty tank. This should take around 2 minutes.

Note: Overboard discharge is only allowed in Canadian waters. **It is illegal to discharge overboard within U.S. waters.**

Water System

Fresh Water Tank/Pump/Hot Water Heater

The fresh water tank holds 90 gallons and is located aft of the aft stateroom, it can be accessed through the back wall panels. You can observe the level of the water tank by the monitor in the electrical panel. To fill the water tank, remove the deck water cap that is located on the back stairs. Fill the tank avoiding flushing debris into the tank.

DO NOT FILL WATER AND DIESEL AT THE SAME TIME!

Waste water from the sinks and showers drain over board through various thru-hulls usually located under the sinks.

The water pressure pump is located aft of the aft cabin and is accessible through the back wall panels. Activate the pump by turning on the breaker at the DC panel. If when in use, the pump continues to run, you either are 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 10.5 gallon capacity. It is heated when the AC breaker is on while connected to shore power or running the generator. Do not use the water heater if the water level is low. The hot water heater is located starboard side of engine room.

Shower

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

Galley

Cooktop – Switch on the cooktop in the electrical panel, then to activate push and turn the knob on the cooktop from the off position, to the desired heat setting. Turning the control knob activates 2 indicator lights, the first remains on while the burner is energized, the second light indicates hot surface and will stay on approx. 12 minutes after turned off and the burner has cooled to a touchable temperature. This cooktop uses High Lit radiant heating elements that ensure rapid heat up. **Keep the cooktop clear of plastic and combustible** items when switched on in the electrical panel.

Refrigerator

The refrigerator is dual voltage (12 volt and 110). It needs to be turn on in the electrical panel. Carefully monitor the use of the refrigerator when the engines are not charging the 12 volt system as when at anchor. Use a cooler when possible for your drinks to keep the refrigerator door closed as much as possible.

There is a power switch and an adjustment switch located inside the fridge at the top and back. It can be turned down at night to conserve energy while anchored or moored.

Electronics

There are 3 VHF radios located at (2) are at the helm and the third is a handheld located in the salon just as you enter on the starboard side. Make sure the breaker is switched on, up on the

panel that is located on the starboard side of the helm. Always monitor channel 16 while underway.

There is 1 depth sounder located on the port side of the helm. To activate the depth sounder turn on the switch located on the starboard helm panel. The sounder is reliable in waters less than 200 feet and at slower speeds. If your reading is blinking, it might be a false reading due to excess depth or strong currents! Watch your depth carefully in cruising unknown waters that might have rocks or obstacles.

A Raymarine type C80 GPS/Radar is located on the port side of the helm. To activate turn on at starboard side panel.

TV'S/Stereo

There are 3 TV's located on this boat. The first is in the salon, it is a Samsung Flat screen TV with a Sony Blue Ray Player. The second is in the master stateroom, it is a Samsung Flat screen with a Blue Ray Player. The third is in the guest stateroom, it is a Sylvania Flat screen with a Koss DVD Player.

The boat is equipped with a clarion stereo system that is located in the salon, with a remote control located up on the lower port side of the helm.] There is a USB hookup for the stereo located on the left side of the salon Blue Ray Player.

Anchoring

Your anchor is a Delta anchor, it is attached to 200 feet of chain.

Turn on the windlass on the starboard helm panel. The controls are located on the starboard side of the helm. Raise and lower the anchor as needed. Be sure to always have your engine running when setting and lifting your anchor. When finished and the anchor is lifted and secured, turn off and the starboard helm panel.

Bar-B-Q

The Bar-B-Q Grill and back rail mounting brackets are located in the floor storage in the opening to the guest stateroom. Attach the regulator and the propane bottle that are located in the blue tote with the grill. The grill cooks fairly hot and fast so keep a good eye on your food and the surrounding curtain to make sure not to melt or ruin the enclosure. Store the grill back in the blue tote and back in the floor once the grill is cooled and cleaned.

Note: Propane bottles are not stocked by SHYC so you will need to purchase a bottle if one is not found on the boat during your check out. Ensure that outboard gas and any other flammables are not near the Bar-B-Q Grill.

Central Vacuum

This boat is equipped with a central vacuum which is located down in the under floor compartment in the opening of the guest stateroom. The hoses and attachments are located in

the starboard side end table at the bottom of the stairs. The revolving brush head works off a battery that needs to be charged. The charger is in with the attachments or sitting on the end table, once charged the battery slides in the top side of the vacuum head. Make sure to flip the circuit breaker for the vacuum in the electrical panel, then the hose hooks up just above where the vacuum is located, which will be at the portside entrance to the guest stateroom.

Dinghy and Outboard Motor

Your 12' Dinghy is equipped with an 8 hp mercury engine. The weight capacity of the dinghy is approx. 857 pounds or about 3.5 number of people.

To deploy the dinghy: undo the 2 stainless steel stays that are holding it on to the boat. Then lower the dinghy with the winch.

After the dinghy is in the water and readied to go (PDF's etc.), open the vent on the fuel tank and choke the engine once while starting. Make sure outboard is in neutral. There should be plenty of gas onboard, although if you need to add more, mix gasoline with 2 cycle motor oil at a ratio of 50:1. Note: Failure to use proper mix will damage outboard.

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

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

Crabbing

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 the wing or the 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 away from the boat. A partially opened can of cat food works as well as any other bait and is less messy. Please clean up any seaweed or crab shells afterwards to keep the boat clean and tidy. The crab pot weighted rope and floating marker are located down in the engine room. The crab pot for cooking is located under the TV in the salon area.

Other Notes

Safety should be paramount to your daily cruising. A man overboard drill (person) should be discussed and practiced with an unlucky PDF as the victim (Please rinse and dry afterwards before stowing). Remember that your life jackets are stowed under the starboard fly bridge seating. A few should always be kept readily available. Flares and other safety equipment is located in the port side fly bridge glove box.

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

Missy Jo is equipped with numerous automatic bilges pumps that can be activated on the starboard helm panel. If you continually hear a bilge pump running, **check the bilge!** You may have a serious problem.

An auxiliary hand operated bilge pump is located in the fly bridge port side seating and operated by hand, or use a bail bucket. These are used in an emergency situation.

The engine spare are located in the port side salon seating. They include extra oil filters, impellers, etc. Extra oil and coolant is also located in the port side salon seating.

If you need any further information on the equipment or location of bilges or pumps on the boat, there is a large white three ring binder, owner's manual, and a black laptop bag located under the TV in the salon area. That will have any information that you may be looking for.

Happy Boating!