

# OPERATION MANUAL

## Alyssa T.

Welcome Aboard!

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

We are the 3<sup>rd</sup> owners of Alyssa T. She is a 1976 Universal Trawler Tri-Cabin classic. She has been undercover most of her life. When we purchased the vessel from Tracy (2<sup>nd</sup> owner), it was named "Frog Sides". When Tracy was a boy he grew up on a farm and he was always a bit chubby. Tracy and his best friend "Mark" (not knowing any better) had always called that chub that hung over the sides of his belt "Frog-Sides". Anyway, shortly after he purchased the boat, Tracy, his wife, Mark & his wife took the boat out for a weekend on her "maiden voyage" they were gathered in the main salon after a few cocktails and were conversing about the wide walkaround decks when Tracy jokingly commented "Hey! We should name her "Frog-Sides". Tracy's wife liked it and so became the name. When my wife "Signe" and I purchased "Frog-Sides", I knew in advance we would need to change her name. So, in the long-time mariner tradition of "You should never change the name of a vessel without running a-ground & it's good luck to name your vessel after a woman". We took her up a slew to a small marina in Everett, WA., parked her in a shallow slip with a soft mud bottom and waited for the tide to go out. Sure enough when the tide went out and she touched bottom. We then changed her name. We name her "Alyssa T. after our oldest daughter "Alyssa Taylor McDaniel". My wife and I absolutely love the older classic trawlers and the Alyssa T. (bottom left). She was exactly what we were searching for! We have paid for many upgrades prior to putting her into charter, to include: New Raymarine Axiom 7 GPS Plotters, Raymarine Quantum 24mile Radar, Raymarine 3d Chirp Sonar, Raymarine EV150 Autopilot, new fresh water pump, new macerator pump, new house battery bank, new start batteries, new fuel gages, new 2000 GPH bilge pump, the list goes on. All bright work is done by hand by my wife, kids & I. We have put her into charter to help us offset the cost of ownership. We truly hope she shows you a great vacation, and that you thoroughly enjoy all that she has to offer! P.S. (I'm the fat guy on the right 😊)



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

## TABLE OF CONTENTS

<b>Boat Operation</b>	<b>Page</b>
Engine Inspection	<b>4</b>
Start-Up & Shutdown	
Getting Underway	<b>5</b>
Cruising & Docking	
Fueling	
<b>Boat Electrical</b>	
A.C. (Shore) Power	<b>6</b>
Inverter	
Generator	
D.C. (House) Systems	
Batteries	
<b>Sanitation System</b>	<b>7</b>
Marine Toilet	
Holding Tank(s)	
Y-Valve	
<b>Water Systems</b>	<b>8</b>
Fresh Water Tanks & Pumps	
Hot Water	
Shower	
<b>Galley</b>	<b>9</b>
Propane	
Refrigeration/ Ice Maker	
Stove/ Oven	
<b>Heating Systems</b>	<b>10</b>
Diesel Heater (DC)	
Electric Cabin Heat (AC)	
Engine Generated (DC)	
<b>Electronics</b>	<b>11</b>
VHF Radio, Depth Sounder, Radar	
GPS/Plotter	
<b>Anchoring</b>	<b>11</b>
<b>Entertainment</b>	
Stereo/ CD Player	
CD Radio	
TV	
<b>Bar-B-Que</b>	
<b>Dinghy/ Outboard</b>	<b>12</b>
<b>Safety</b>	
Cruising Restrictions	
M.O. B.	
Dead Heads/ Debris	
<b>Crabbing/Fishing</b>	

# BOAT OPERATION

## 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 tanks. Check the level of your engine oil with the dipstick. Your oil dipstick is located on the port side of the engine. Look at the etch mark on each dipstick that indicate proper levels. **DO NOT OVERFILL!** Only fill if oil levels are below the 1/2 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 from the lower helm station. Ensure that Gearshift is in **neutral** or the engine will not start (neutral lockout) Run your throttle up and bring back to just above the idle position. Inset the key into the ignition and turn the key starting the engine.

Turn the key clockwise until the engine alarm sounds and pre-heat the engine. After 10-30 seconds turn key fully to engage the engine. If the engine does not turn over, move the gearshift slightly while turning the key until the engine engages. If the engine cranks slowly, check the condition of your batteries at the electrical panel. If the battery is low, engage the Battery Parallel Switch located under the main panel in forward stateroom to connect other batteries. After the engine has started, return Battery Parallel Switch to "Off". Please never touch the battery switch under the main salon seating.

After the engine starts, warm it up at about 1000rpms for about 5 minutes. Observe your gauge readings. Oil pressure reads around 40 to 60 psi and water temp around 180 to 190 degrees. Engine temperature should rise very slowly.

*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 exhaust? Are thru-hulls open and debris cleared from sea-strainer? If problem keeps occurring, call SHYC Service.*

## Shut Down

Before shutting down, let engines idle for about 5 minutes letting them cool. Ensure the gearshift is in the neutral position and each throttle is in idle. Turn off the engines by pressing and holding down the silver button directly below the RPM gauge at the lower helm station, then turn key to off position. Note: if you turn the key off before pressing & holding the silver button, the engine will not shut down.

## 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 marina, have crew members bring in fenders and put lines away.

## Cruising

All close quarter maneuvering should always take place at the upper helm. Make certain the throttle is in idle and engage the gearshift. Slowly come up to cruising speed of 1700 rpms. If you run at 1700 rpms, you will cruise at approx. 7.5 knots, using only 1.5 gallons of diesel/hour. Your speed may vary depending on weight, load, tide flow and weather conditions.

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

## Docking

During docking, use the upper helm for the best visibility. Give clear instructions to the crew on what you will expect of them i.e. with lines and fenders.

While moving slowly towards the dock (use reverse to slow your approach only when necessary), center the wheel and approach at 30-degree angle, as you approach slowly steer away from the dock "The idea is to bring your stern close to the dock and then use the bow thruster to bring your bow back to the dock. Always tie off the stern 1<sup>st</sup>, leaving a bit of slack so you can maneuver your bow back to the dock using the bow thruster. Throttle should only be used in moderate to windy conditions. Otherwise, the use of the transmission should be sufficient.

## Fueling Up

Open the "FUEL" filler caps (NOT WASTE) located at midships on both port and starboard side with the deck-fitting key kept at the lower helm station dash. **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. 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 fuel** 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 and/or the filler cap. 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.

Check your gauges. Replace the deck fill caps and turn on the engine room blowers for a few minutes. 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 wall as you enter the forward stateroom and the battery switches located 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. 30amp, 20 amp etc.) If necessary, add an adaptor located inside the starboard cabin entry stair. 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 dial on at the electrical panel to "shore power". Turn on appropriate breakers for battery charger, refrigeration, water heater, lights and outlets. 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.

## Generator

To start your generator, first check that the fluids have been checked and the raw water thru-hull is open. The generator controls are located below the 110v & 12v electrical panels. Pre-heat the generator for about 20-30 seconds. Then, while pre-heating, hold the toggle switch in the up position to start. Hold the switch in that position for about 5 seconds until the engine catches. Make sure your water and exhaust is exiting at the stern.

After the generator is running, turn your AC distribution dial over to generator. Turn on your AC systems as you would as hooking up to shore power. If you have been anchored a while, turn on the battery charger first for 10 minutes. Too much load such as 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 off the main AC distribution switch. Last, kill the generator by moving the toggle switch to the "downward" off position, the generator will then power down.

## House 12-volt System

Five battery banks support your 12-volt system: #1 Port Engine Start #2 Starboard Engine Start #3 House Battery Bank #4 Inverter Bank #5 Generator

Your battery switches are located below the electrical panels. 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 positions 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 pump and macerator pump will always be left to the "auto" position. Your breakers such as propane and engine room light 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/inverter while connected to shore power. Ensure that the charger is on by looking at the battery charger display screen located to the left of the lower helm station pilot wheel. 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

### Marine Toilet

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. Once the bowl is dry, using the drinking glass mounted on the wall, fill the bowl with 3 cups of fresh water from the sink. This will eliminate any potential smell seeping up from the holding tank.

Should the toilet squeak or be a bit sticky to pump, lubricate with a couple of squirts of dish soap or salad 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 75 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 on the starboard side of the engine compartment. Some may be subject to a visual check with a flashlight or the "watermelon test" by thumping it.

The holding tank is emptied in one of two ways:

#1 At the pump-out station, remove the deck waste cap located directly next to the the diesel filler cap amidships on the starboard side. 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. This also eliminates any head odors.

#2 The tank's contents can also be discharged at sea by using the macerator (Sealand pump). To operate the macerator, open thru-hull located in the engine compartment on the starboard side and just aft of the waste tank, depress macerator switch, and pump until pitch becomes higher indicating an empty tank. This should take about 2 minutes. A manual diaphragm pump for overboard discharge of holding tank is located inside the engine compartment on the starboard side with the Y valve located just to the right of the pump handle. Discharge can be seen on the starboard side of the boat. *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 directly below the head pump handle. 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.

## WATER SYSTEM

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

The 2 fresh water tanks hold 100 gallons each and are located on the aft deck, port & starboard sides. Observe the water level by keeping an eye on the system pressure at all fixtures. To fill the tank, remove the deck water fill cap located on the aft deck, port & starboard sides. Fill the tank avoiding flushing debris into the tank. **Do not fill water and diesel at the same time!** The water tanks are equalized so there is no need switch over the tanks. Only open 1 tank at a time! Waste water from the sinks and showers drains overboard through various thru-hulls usually located under the sinks

The water pressure pump is located in the engine room forward near the generator. 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 or running the generator. Do not use the water heater if the water level is low. The water heater is located in the forward section of the engine compartment on the port side.

## **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 low-pressure propane system for cooking. The propane tank is located inside the flybridge visor on the port side. Open the tank valve. Go to the DC panel and turn on the breaker labeled "Propane". Then turn on the propane solenoid switch located just to the right of the lower helm "VHF/AIS radio. 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.

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

### **Refrigerator**

The refrigerator is dual voltage (12 volt and 110). It will automatically use the 110 volt power when shore power is on and the AC breaker flipped on. Carefully monitor the use of the refrigerator when the engines are not charging the 12-volt system as when you are at anchor. Use a cooler when possible for all your drinks to keep the refrigerator door closed as much as possible.

The power switch is located below the front door of the fridge. It can be turned down at night to conserve energy while anchored or moored.

## HEAT

The Wallace diesel forced-air furnace is located in the aft section of engine compartment starboard side. It provides heat much like your household furnace. Turn on the toggle switch in the aft cabin at the foot of the bed and set the temperature at the desired temperature. Check the exhaust port on the starboard midships to make certain that no obstruction such as a fender or line exists. Let the furnace run at least 15 minutes before turning it off. Turn the furnace off back at the thermostat.

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

## ELECTRONICS

There are two (2) VHF radios located at both the upper and lower helm stations. Make sure the breaker is on at the DC Panel. Always monitor Channel 16 while underway.

There are three depth sounders, two of them located on the upper helm (one integrated into the Raymarine Axiom chartplotter and one independent Raymarine fish finder) and one "integrated into the Raymarine Axiom Chart Plotter" at the lower helm. To activate lower helm electronics, ensure that the DC breaker labeled "electronics" is on. To turn on the upper helm electronics, open the forward cabin hanging locker and there is a wall switch labeled "freezer" make sure that switch is turned on. Sorry about mis-labeled switch, its on my todo list ☹️. Turn on the depth sounder at upper helm by holding the power button unit until powers on. The sounder is reliable in waters less then 200 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.

To operate the radar, turn on the breaker labeled "Radar" on the rocker panel directly above the lower helm station, make sure the Raymarine Axiom Chart Plotter is powered up, give it a minute or two. Then from the main menu of the chart plotter, choose the desired screen and follow the prompts. To turn off, hold the power button for about 3 seconds. **Remember you are not allowed to travel in fog or at night.**

A Raymarine Axiom 7 GPS is located at the upper & lower helm. Turn on by holding the power button for 3 seconds then slide to the right. Press the "home" button to scroll through the functions.

## ANCHORING

Your primary working anchor, a 30lb SSTL Danforth-pattern anchor, is attached to 400 of chain and feet of line.

Turn on the anchor windlass near the AC panel and proceed to raise and lower the anchor as needed. Be sure to always have your engines running. See page 9 in the White Binder for further anchoring instructions.

Turn off the breaker when finished.

A spare anchor is located lazarette with spare rode.

## BARBEQUE

The Barbeque and mounting bracket are stored inside the flybridge visor, port side or on the aft flybridge deck.

Attach the propane bottle and regulator usually found inside the flybridge visor. Carefully light the unit. This Barbeque cooks fairly hot and fast so keep a good eye on your food. Store the barbeque back under the visor when it has cooled. Please wipe it down with a rag or paper towel before storing. *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 Avon dinghy is equipped with a 2.5 hp mercury engine. If not on the dinghy it is stored inside the lazarette. It has a capacity of 900 pounds or about 4 number of people.

To deploy the dinghy,

First unhook (at dinghy side) the two metal holding rods attached to the top of the dingy. Then untie the appropriate mast line that is attached to the inside rear cleat. Lower the dingy by giving slack to the rope. Once in the water, grab the dingy bow line and tie off to the main vessel. Then release the weaver davits from the rear swim platform. Insure the dingy is securely tied off to the main vessel prior to installing the outboard motor. **Note: Important to release the dingy from the rear swim platform prior to installing the outboard motor.**

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. While there is extra outboard gas on board, 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.* Remember to always bring the spare oars located on the flybridge in case of outboard motor failure.

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 on the fly-bridge under the seats and inside the lower cupboards of the forward stateroom. A few should always be readily available. Flares and other safety equipment are located on the aft shelving in the main salon and in the forward stateroom lower drawer on the port-side.

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".

Alyssa T. is equipped with numerous automatic bilges pumps that can be activated on the DC panel. The switch should normally be left in the "Auto" position can be switched for a minute or so to "manual" to pump the bilge. If you continually hear the bilge pump running, **check your bilge!** You may have a serious problem!

An auxiliary hand-operated bilge pump is located in the engine room starboard side shelf. This is used in an emergency situation.

The engine spares are located in storage compartments inside the main salon entry stairs and in the engine room. They include extra oil filters, impellers, head pump, etc. Extra oil and coolant is located in the engine room. A spare fan belt is also on board and is attached the main diesel engine.

Crabbing is fun but requires the correct license and season. Please crab off of the bow of the vessel, and 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 as 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.