

OPERATION MANUAL

SAILING VESSEL

“Windependent”



Welcome aboard!

We are happy you have chosen Windependent for your vacation. Enjoy cruising the beautiful waters of the Pacific Northwest.

We hope this manual will help you become familiar with the boat. Please remember this is a non-smoking vessel. Always smoke outside. If you have questions about the boat or about places to visit, please do not hesitate to ask the AYC staff.

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Boat Operation

Engine Inspection

Every morning, please remember to check the following;

- Oil Level.
- Bilges
- Belts
- Sea Strainer.

Please double check with your check-out skipper the location of all of these! Check the level of COOLANT in the expansion tank. Engine coolant is a mixture of 50% antifreeze and water. For your convenience, there is a bottle of pre-mixed coolant in the port Lazzerette. Check the level of engine oil with the dipstick located on the starboard side of the engine. This can be accessed by removing the companionway steps or the access panel in the aft starboard cabin. A pair of etch marks on the dipstick indicates the proper oil level. **Do not overfill!** Make sure the dipstick is firmly put back in! Check the oil with a paper towel or a rag. Check the general condition of the BELTS, HOSES, and FUEL LINES.

Ensure the valve on the RAW WATER THRU-HULL is in the 'open' position (lever in-line with valve). Your thru-hull should be left open at all times.

Check the glass of the RAW WATER STRAINER for debris. If necessary, close the seacock, open the strainer cover, clean the strainer, and reassemble. **Important:** Be careful to seat the O ring properly or you will have a leak. **Important:** Don't forget to reopen the thru-Hull.

Engine

Windependent has a 56HP Yanmar diesel engine, which drives a three-bladed propeller through a reversible transmission. The combined shift lever and throttle control is on the starboard side of the steering wheel. The engine stop is located above the ignition key above the port seat. The engine will propel the vessel to about 7 knots in calm water at 2400 RPM. Your best cruising is at 2000 - 2200 RPM for longer periods.

Using higher throttle settings will produce very little increase in forward speed but will greatly increase fuel and oil consumption and wear on the engine. For this reason, we ask that you limit the use of higher power settings to real emergency situations.

This boat has a definite prop walk to the port in reverse with not much noticeable affect in forward. When in reverse, be careful to keep a firm grip on the wheel. Please use only low RPMs.

Starting

To Start the Engine: Place the engine transmission in Neutral by positioning the shift lever straight up. If you would like to increase engine R.P.M. out of gear, push the red button in to engage transmission lockout and advance shift lever ahead slightly.

Start the engine by turning ignition to preheat for 30 seconds then to start position. Do NOT hold the key in the start position for more than 15 seconds at a time. If engine does not catch the first time WAIT about 15 seconds before trying again. **NEVER TURN OFF KEY WHILE ENGINE IS RUNNING.** You will do serious alternator damage. The key should remain on while the engine is running.

Check the transom for water and exhaust as an indication that your thru-hull is open and water is keeping your engine cool. You should see and hear the exhaust water splash on the starboard side of the transom.

Shutdown

Place the transmission in neutral and allow the engine to cool down for several minutes. Usually this is about the amount of time it takes to secure your lines and plug into shore power. Push the round, black stop button located above the ignition key. This cuts off the fuel supply to the engine. Never turn off the key while the engine is running. Alarms will sound until the key is switched off. Switch off the key after engine has completely stopped.

Getting Underway

Prior to getting underway, disconnect the SHORE POWER CORD (See AC Power next page). Close the PORTHOLES, WINDOWS, and FORWARD HATCHES. Turn on V.H.F. & instruments. Assign crewmembers to their tasks. Put one crew member in charge of the dinghy, if it is under tow. Once outside marina, have crew members bring in fenders, put lines away, and pay out extra dinghy tow line.

Docking

Have your crew make ready the lines and fenders and give clear instructions on how you will be docking. Have bow, stern, and spring lines ready. Often times it is best to lead them to the mid section of the boat (the fattest part) where your crew member can easily step off and secure lines. Pull the dinghy up tight and make sure no lines are in the water that could foul the prop.

As you are coming in to dock, have your best communicator mid ships to give you distances from the dock. It is often hard to judge how close the dock is. Calling out distances (i.e. 20 feet, 10 feet, 4 feet etc.) will add to a successful docking.

If you find you are too far off the dock, **BACK OFF** and do it again. No heroic jumping off the boat by any crew members, this is very dangerous!

Fueling Up

You will need to fuel up before returning to your slip at the end of your charter. The fuel tank holds 35 gallons of diesel fuel. Before pumping, have oil/fuel sorbs handy to soak up spilled fuel. You should have a rough idea of the number of gallons you will need by the number of hours of engine time since departing on your charter. Windependent uses approximately 0.75 gal/hr.

The fuel deck cap is located on the aft Starboard deck, with the key located in the Nav station drawer. **CHECK THAT YOU HAVE THE CORRECT DECK OPENING! Use only DIESEL – make sure that is what you are pumping!** Do not add water or pump-out at the same time you are fueling.

Place the **DIESEL** nozzle into the tank opening, pump slowly and evenly, and note the sound of the fuel flow. Pumping too fast may not allow enough time for air to escape, which may result in spouting from the tank opening. As the tank fills, the sound will rise in pitch or gurgle. Pay attention to the TANK OVERFLOW VENT on the outside of the hull opposite the tank opening. The sound may indicate that the tank is nearly full. Top off carefully, and be prepared to catch spilled fuel. Spillage may result in a nasty fine from law enforcement.

Caution -- Clean up splatter and spillage immediately for environmental and health reasons. Thoroughly wash hands with soap and water..

BOAT SYSTEMS

Electrical Systems

The electrical system is divided into two distribution systems: 110-volt AC and 12-volt DC.

The systems are controlled from the AC ELECTRICAL PANEL located **below** the Nav station and the 12 volt DC panel at the nav station, The battery switches are located ABOVE THE STARBOARD BERTH.

When not connected to shore power, batteries provide all of your electrical power. Therefore, monitor the use of onboard electricity carefully. Turn off electrical devices when they are not being used (lights, instruments, etc.)

110-Volt AC System (Alternating Current)

SHORE POWER supports all AC equipment and receptacles on board, as well as the battery charger (Xantrex inverter).

To connect to shore power, plug the **POWER CORD** into the boat first (stern, port side), then the dock receptacle. Check the power rating/plug size of the nearest dock receptacle (that is 30 amp, 20 amp, or 15 amp). If necessary, add a CORD ADAPTER located under the Nav station desk. Secure the cord around the shore power electrical receptacle tower and off the bow. Turn the dock power on.

On the boat, at the ELECTRICAL PANEL, flip on the AC CIRCUIT BREAKER. If no AC power; there is a second circuit breaker to be checked. It is located in the cockpit locker where the shore power cord comes into the boat. Reset breaker if off. Check for reverse polarity – the warning light will show under the AC breaker on the AC panel. Then turn on appropriate breakers for battery charger, water heater, outlets, etc. Watch your amp meter for load. If the load is exceeded, it will pop the breaker. If you are not getting power to your outlets, check to ensure one of your breakers has not been tripped. If this occurs, wait to turn on one of your systems (i.e. water heater) until the use of power decreases.

12-volt DC System

House Battery Bank & Switch

Two battery banks support 12-volt DC power: 1) engine battery 2) two house batteries.

The BATTERY SWITCHES are located above the starboard berth. Normally, leave all switches in the on position while running. #1 Engine #2 House

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 the breakers for your lights, water pressure, electronics, etc. Interior lights are also powered from a circuit breaker on this panel but many have individual switches at each fixture. The bilge pump light is always on. Your breakers such as propane and should always be turned off after every use.

The HOUSE BATTERY BANK provides power for all DC systems. When disconnected from shore power, all 12-volt devices drain the house batteries.

Battery systems will lose their charge while ANCHORED or MOORED. Avoid this by using power sparingly at anchor. Turn the refrigerator off at night. Use only one or two lights at a time. Turn off systems not in use such as instruments, VHF, stereo, etc. If you stay moored for more than a day, run your engines just above idle to recharge your batteries. **WATCH YOUR VOLTAGE!** The Battery Test button 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.

By cycling through the Inverter readings – the ‘Sel’ button (Xantrex box under the DC panel) you will be able to read how many Amp Hours you have at the current drain – a nice little feature. The

Invert button needs to be selected to provide power to the 110 outlets while on DC power only. The outlets switch on the AC Panel must be ON to run while using the inverter. Again, a nice feature however please beware that this will significantly drain your power!

Batteries are charged by the engine ALTERNATOR while underway. The engine/house batteries are charged by the INVERTER / BATTERY CHARGER when connected to shore power.

Note -- Do not change the position of the switches while the engine is running or the alternator diodes will be damaged. Change positions with the engine off.

SANITATION SYSTEM

Electric Marine Toilets (Jabsco)

It is important that every member of the crew be informed on the proper use of the MARINE TOILET. The valves, openings, and pumps are small and may clog easily. **If the toilet clogs, it is YOUR RESPONSIBILITY!** Always pump the head for children so you can make sure nothing foreign is being flushed.

Caution – Never put paper towels, tampons, Kleenex, sanitary napkins, household toilet paper, or food into the marine toilet. Use only the special dissolving marine toilet tissue provided by AYC – and use it sparingly, flushing more than once if significant deposits are being made.

To use the toilet, press the wet bowl button. After using the toilet, press the top ‘flush’ button. Flush sufficiently to move effluent in the hoses; heavy effluent may clog hoses. Clean the toilet as necessary.

The TOILET TRU-HULL is located under the sinks in aft head, and under mirrored cabinet in forward head, if you need to shut off the water to the toilet.

Holding Tank

Each sanitation HOLDING TANK holds approximately 20 gallons. Be aware of the rate of waste production. (about 1 gallon per flush) With an overfilled tank, it is possible to break a hose, clog a vent, or burst the tank. **The result will be an EXPENSIVE FIX to you.** Empty the tank every day to avoid this problem.

The holding tank is emptied in one of two ways:

#1 At the Marine Pump out Station, Remove the deck WASTE CAP located on the stbd deck above each head. Insert the pump-out nozzle into the waste opening. Double-check your deck fitting! Make sure you have the right deck opening! Turn on pump and open valve located on handle of the hose. When pumping is finished, close lever on handle and turn off pump. Remove from deck fitting.

If there is a fresh water hose on the dock, rinse the tank by adding 2 minutes of water into tank. Then repump to leave the tank rinsed for the next charter. This also eliminates any head odors.

#2 The tank's contents can be discharged at sea by using the round macerator pump button in each head and OPEN seacock (this is important!). The breaker will need to be on at the DC panel too. Note: Overboard discharge is only allowed in Canadian waters. **It is illegal to discharge overboard within U.S. waters.**

WATER SYSTEMS

Fresh Water Tank/Pump Hot Water Heater

There are two fresh water tanks that hold about 130 gallons. They are located under the forward bunk and under the starboard bunk. Be mindful of the amount of water you use while washing dishes and taking showers, etc.. Wastewater from the sinks and showers drains overboard through various thru-hulls usually located under the sinks.

To refill the tank, remove the WATER CAPS located on port deck fore and aft. Attach the hose to the dock spigot and let run for a minute before inserting into deck fitting. Avoid flushing debris from the deck into the tank opening. DO NOT fill water and diesel at the same time!

A MANIFOLD to switch tanks is located under the aft curved settee. **In the salon next to the table, not in the cockpit.**

Fresh Water Pressure Pump

The WATER PRESSURE PUMPS are also located under the aft curved settee. Activate pump at the DC panel by turning on the Freshwater Pump breaker. If when in use, the water pump continues to run, you are either out of water or might have an air lock and need to bleed the system, which can be corrected by opening up a faucet. **If you run out of water SHUT OFF pump and turn off HOT WATER HEATER on the AC panel.** Serious damage can occur to the heating element! Windependent is equipped with 2 water pumps.

Hot Water Tank

The HOT WATER HEATER has a 6 gallon capacity tank and heats when connected to shore power or off the heat exchanger when the engine is running. To use in the AC mode, flip on the water heater circuit breaker on the AC electrical panel located under nav table. Do not use the water heater if the water tank level is very low. The water heater is located under that aft curved settee.

Shower

Before taking a SHOWER, make sure both the Freshwater Pump and Shower Pump breakers are on. To activate the hand-held wand pull the hose out of the sink and attach to wall spray holder. Take only very short “boat” showers (turning off water between soaping up and rinsing). To keep shower tidy wipe down the shower stall and floor. Flick the SHOWER DRAIN switch in each head in order to drain shower (it looks the same as the light switch on the heads). Check for accumulation of hair in the shower and sink drains and pick up any accumulation, as it clogs the hoses. There are shower sump strainers under each head sink. Close the appropriate thru hull then spin off the clear plastic bowl and clean as necessary. An additional FRESH WATER SHOWER is located at the transom opposite of the swim ladder. Ensure that the faucets and nozzle are completely off after use to save water.

GALLEY

Propane Stove

The boat is equipped a low-pressure propane system for cooking. The propane tank is located in the port aft cockpit locker. Your propane stove is activated by the following steps:

#1 Open the tank valve.

#2 Ensure breaker labeled Gas Valve at DC Panel is on. This is the power supply to the sniffer/solenoid.

#4 Turn on the gas at the stove (press in knob) and light burner. You might need to hold knob in for a few seconds while the thermo coupler warms up. When lighting for the first time, allow a few seconds for the gas to travel from the tank to the stove. If burners fail to light, use BBQ lighter located in the galley draw.

#5. When finished cooking, turn off the switches and **close valve at the bottle.**

Please be very careful not to put the kettle, coffee percolator or any hot pans on the counter tops, they will burn the counter tops!

Refrigeration

The REFRIGERATOR operates on 12-volt power. Carefully monitor the use of the refrigerator when the engine is not charging the 12-volt battery system, such as when you are at anchor. There is both a breaker on the DC panel and a thermostat in the locker above the refrigerator. AYC will supplement you with 2 bags of ice. **The refrigerator should be turned OFF at night** when anchored or moored to prevent drainage of the battery. Use a cooler when possible for all your drinks to keep the refrigerator door closed as much as possible.

Pump out excess water in fridge as follows: #1 Turn on shower pump on DC panel. #2 push and hold labeled button above the fridge.

HEATING

There is a portable electric heater located in the starboard cabin locker. Due to the inverter, you can run this while away from the dock on DC power. Again however, please be mindful of the power draw this creates. Running the engine in parallel will help too. Deisel heat turn to heat adjust temp. Takes time to warm up. * to shut down first turn temp down the cut power switch to off. It will take time to cycle off.

ELECTRONICS

All electronic manuals are located under the Nav Station table.

VHF Radio

The Standard VHF radio is located in the Nav Station. Make sure the breaker is on located at the DC panel (electronics). Monitor channel 16 at all times. VHF operation is covered in detail in the Moorings Beneteau manual located under the nav station/table.

GPS, PLOTTER, and RADAR

Refer to the instruction manuals located beneath the Nav. Table. **DO NOT** hit Reset for Radar. It turns the radar Off. If that happens , go into Settings this display- radar then enter Passcode 8ea460a1.

ENTERTAINMENT SYSTEMS

CD/Aux/AM/FM Stereo Radio

The AM/FM stereo radio unit is located in the Nav Station. It operates like a normal car radio. There are speakers (stereo) in the salon and on the deck. There is an auxiliary cable in the nav station, use this to plug into your iphone, ipod or other device to listen to music while onboard.

ANCHORING

The primary WORKING ANCHOR is a 45# CQR/Plow and is attached to 125 ft chain and 200 ft of line. The rode is passed through the deck from the ANCHOR LOCKER. Chain marked every 25' w/ black, Blue, Green, Yellow, grey zip ties.

The anchor windlass is operated by a hand held remote located in the bin to the PORT of the navigators seat. It screws into a 3 prong jack Located AFT to PORT in the anchor locker. Be sure to secure the lid to the anchor locker in the up position to avoid injury. The connector has ascrew cap that must be removed before the control can be connected. Please be sure to replace the cap when not in use.

Proceed to raise and lower the anchor as needed. Be sure to always have your engine running.

Let out sufficient ANCHOR RODE (chain and line) before setting the anchor. If the anchorage is crowded put down at least a 3 to 1 scope (60 feet for 20 feet of water), back the anchor in with a short burst from the engine. Then let out additional scope dependent upon conditions. Breacher located in STBD berth with Bait. Switches Turn breaker off when not in use. Before raising the anchor, start the engine. Use the hand held remote (stored in the nav station) as the boat moves toward the anchor **on engine power**, pressing the 'up' control to take up slack line as you move forward, Do not pull the line tight. When you are directly over the anchor, raise the anchor up with the windlass, giving the windlass short rests as you are pulling raising the anchor. The windlass uses a large amount of electrical power; so ALWAYS operate the windlass with the engine running. Place yourself in position to guide the anchor onto the roller. Reconnect the keeper line.

Coordinate the maneuver with the helmsperson to remain steady above the anchor as it is raised. As the anchor rises, be careful not to allow it to swing against the hull.

The SPARE ANCHOR and RODE is normally stowed IN THE AFT STARBOARD LAZERETTE. Make sure that the Rode is securely attached to the boat before use.

Mooring Buoys

Mooring buoys have a metal triangle at the top upon which is a metal ring. The metal ring is attached to the chain, which secures your boat. IT IS VERY HEAVY. The strongest member of your crew should be picked for this job.

Come up to the BUOY into the wind as you would for anchoring. Have crewmembers on the bow, one with a boat hook and one with a mooring line secured like a bow line. As you are coming slowly up to the buoy have the crew holding the boat hook point at the buoy with the hook so the skipper always knows where it is. Hook the buoy and bring the ring up to the boat to allow the second crew to thread the ring with the line. Release with the boat hook. If your mooring line is led out the starboard chock bring the end of the line back through the port side. You will essentially create a bridle with about 10 feet of slack from the chalk to the buoy.

SAILS AND RIGGING

There is a 140% Jib on a roller furler. The furling line runs on the port side to the cockpit. To unfurl the headsail, (a) uncleat the furling lines, (b) wrap the sheet around the appropriate winch, (c) pull the sheet aft while maintaining tension on the furling line, (d) 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 on the furling line until there are 2 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 furls into the mast when not sailing. As with the jib, maintain some tension on the outhaul when pulling on the main furling line.

All Jib sheets, reef lines, mainsheet, halyards and traveler are all operated from the cockpit. There is no whisker pole, and no spinnaker setup.

Troubleshooting:

1. *Furling line gets stuck* partway through the furling process. This is usually due to not applying proper tension on lines during the furling and unfurling process. Try letting the sail in / out and repeating the process. Be sure you are headed into the wind to reduce pressure on the rig.

BARBECUE

The BARBECUE and MOUNTING BRACKET are usually mounted on the aft rail. If not, they are stowed in the port lazzerette.

Attach a PROPANE BOTTLE to the REGULATOR. Carefully light the unit, preferably with long-stem butane lighter. The barbecue generates a lot of heat and cooks hot and fast. Do not cover the unit until it has cooled completely. Please wipe with a paper towel before storing to prevent grease and dirt soiling the boat.

Note: Propane bottles are stocked in the AYC office. You will need to purchase one if extras are not found on board. (aft port locker vicinity propane tank.)

*Caution -- For safety reasons, do not store an opened propane bottle within the salon or engine compartment. Chances are these will leak slightly once opened and propane gas could settle into low spaces. **Store these bottles in the propane locker. Ensure gasoline and flammable materials are not near the barbecue.***

DINGHY

If you rent a motor to mount to the Dinghy, never tow the dinghy with the engine mounted. Be sure when towing your dinghy, that one responsible individual is always keeping an eye on its towrope when slowing down or stopping. Bring up all the slack to prevent a wrap around the prop.

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.

When heading to shore, use **EXTREME CAUTION**. Choose an area free of any large rocks that might cause damage in beaching. Make sure the engine gets tilted up a safe distance from shore so the prop does not hit the bottom or shear the pin. Lift up on the dinghy to bring it up to higher ground. NEVER drag it, it will puncture the bottom! Secure it when leaving as tides come up very quickly.

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

SAFETY should be paramount in your daily cruising. A MAN OVERBOARD DRILL should be discussed and perhaps even practiced with a life jacket. Remember you lifejackets are stowed in starboard lazarette. A few should always be out and readily available. Your flares and safety equipment are located under the Nav station seat.

Always keep a sharp lookout posted for logs, deadheads, or other flotsam and jetsam. A log hitting your prop can ruin your vacation.

Windependent is equipped with an AUTOMATIC BILGE PUMP that is hard wired to the battery and a second bilge pump that is operated by switching on the bilge pump breaker on the DC panel. Normally, the switch will be left in the OFF position. You may occasionally hear the pump operate due to condensation and water from the shaft log accumulating in the bilge. If you continually hear the bilge pump running, check your bilge! You may have a serious problem!

ONE AUXILIARY HAND OPERATED BILGE PUMP is located in the port lazarette. A handle is located in the port aft lazarettes. These are operated by an up and down motion with the handle. Use only in emergency situations.

The ENGINE SPARES are located under nav station seat. This includes oil filters, raw water impeller; fuel filters, belts, and other small parts. Extra oil and coolant is also located in port lazarette.

CRABBING AND FISHING

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 dangled in your prop as you swing with wind or current. It is best to use the dinghy to set your crab pot/ring away from the boat. A partially open can of seafood or cat food 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.

THANK YOU FOR CHOOSING WINDEPENDENT FOR YOUR VACATION EXPERIENCE.

WE TRULY HOPE YOU ENJOY OUR BOAT AS MUCH AS WE DO!!!