OPERATIONS MANUAL

MOTOR YACHT

Ocean.Observer

Welcome aboard!

We are happy you have chosen "Ocean Observer" for your vacation. We are sure you will enjoy cruising the lovely islands of the Pacific Northwest. Ocean.Observer is equipped with many conveniences to help make your adventure in the islands memorable.

200752'VoyagerSedan | 52'9"Overall | 15'4"Beam | Draft4'9"

This is a well thought out and well equipped vessel. Ample diesel power as well as bow and stern thrusters. The Bimini topped flybridge contains a complete helm station with repeaters for the navigation. Aft of this station is an L shaped settee and table, and let's not forget the wet bar, ice maker, and plenty of storage.

The galley contains a two burner electric stove, microwave and refrigerator/freezer, and dual sinks. In the main saloon there is an L shaped couch, table, and a chair. Aft is a 32” TV and surround sound system. Large windows with vertical folding blinds give good natural lighting and visibility. Through the sliding patio door there is a partially covered aft deck (cockpit) with good access to the engine room.

Down the stairs from the centrally located main helm station there is a walk-around queen berth and mounted TV and stereo in the master cabin as well as several drawers and cabinets for storage. The master and guest heads both have a shower/tub on one side and a vacu-flush toilet on the other. The forward cabin has a queen center-line berth, and the guest cabin has two bunks. All areas of are heated and air-conditioned by three separate zone controls.

We trust this manual will help you become familiar with the boat. If you have questions, please do not hesitate to ask the AYC staff.

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BOATOPERATION

Engine Inspection

Remember your **"WOBBS"** every morning: **W**ater (Coolant), **O**il, **B**ilges (Inspect and Pump-out), **B**elts and **S**ea Strainer.

Check the level of COOLANT in the expansion tanks. Check the level of OIL in each engine by checking your dipsticks located side and midway bottom of each engine. Dip sticks are best dipped two times for an accurate reading. PULL THE DIPSTICK, WIPE IT, RE-INSERT FULLY AND REMOVE TO OBSERVE OIL LEVEL. Look at the etch marks on each dipstick that indicate the proper oil level. THE ETCH MARKS ARE HARD TO SEE, SO USE A FLASHLIGHT IF NEED. **PLEASE DO NOT OVERFILL THE OIL!** Only add if oil levels are below ½ way between the two marks. Please use a paper towel or oil rag. Check the general condition of the BELTS, HOSES, and FUEL FILTERS which have clear bowls – should be clean and pink in color as marine diesel is dyed pink. Quart(s) of oil are stored forward of the engines, along with 50/50 antifreeze for the main engines and generator.

Ensure the valve on each RAW WATER THRU-HULL is in the **'open'** position (lever in-line). Observe the glass of each RAW WATER STRAINER for debris. If necessary, close the seacock so you can open the strainer cover, pull out the metal strainer, and then reassemble. **REMEMBER TO RE-OPEN THE SEACOCK.** Check your generator fluids as well.

Start-Up

Before starting the engines, do your inspection, best done when things are cold. The engines should be started from the lower helm station. Ensure GEARSHIFTS are in 'neutral', or the engines cannot be started because of the "neutral lockout".

One at a time, turn the keys one position clockwise just like accessory mode in your car, you will see the electronic gauges turn on. Push and hold "Key" button on controls until port light comes on, this tells the boat which station you are at. Turn the key fully clockwise to engage the engine starter.

Repeat for starboard engine. If either engine fails to start—stop, wait 3 seconds and engage starter again.

If the engine cranks slowly or fails to turn over, check the condition of the battery on the ELECTRICAL PANEL. If the battery is low, start the generator and let batteries charge.

Ensure that the engine room blowers are running from the 12 volt panel and leave blowers on whenever main engines are running. With this boat they should start running when you turn the one of the keys to start.

Warm the engines for about 5 minutes before engaging transmission. To raise rpms on engines in neutral, press and hold the "N" button on controls while advancing throttle. Observe the readings of the gauges. The oil pressure will register about 50 PSI. The engine temperature should rise slowly but it will take 30 minutes or more to reach normal operating temperature (165-175 degrees)

Note -- If oil pressure is low, shut down engine, and inspect engine compartment and look for possible cause (for example, loss of oil.) Caution -- If an engine is overheating or there is lack of raw water expelled in the engine exhaust, stop the engine immediately. Recheck the raw water-cooling system to ensure the seacock is 'open' (handle in-line with valve). Next, check the raw water strainer for debris. Remove the strainer, clean, re-assemble, and reopen the raw water intake valve (seacock). Restart the engine and re-check water flow from the exhaust. If water is not flowing properly, the RAW WATER PUMP may need to be serviced. Seek help.

Shut-Down

Before shutting down, allow the engines 'idle' for a few minutes to cool them gradually and uniformly. The time engaged in preparing to dock the boat is usually sufficient. Ensure each GEARSHIFT is in the 'neutral' position and each THROTTLE is in the 'idle' position. Turn off engines by turning each key counter clockwise past vertical and hold until the engines come to a complete stop.

Getting Underway

Confirm that the helm you intend to use is activated. This can be done by pressing and holding the "Key" button until indicator lights steadily. Engines must be in neutral to activate the helm station.

DISCONNECT the shore power cord (see 110-Volt next page). Use the Glendenning electric shore power cord retrieval system to rewind (or to unwind cord) for use. Switch is located on aft deck port side locker ahead of swim platform (NOTE: THERE IS ALSO A MASTER SHORE POWER SWITCH LOCATED IN THE COMPARTMENT ACCESSED ON THE SWIM PLATFORM, NEXT TO THE GLENDENNING ELECTRIC SWITCH. IT IS RECOMMENDED THAT ONE FLIP THIS SWITCH OFF BEFORE CONNECTING AND DISCONNECTING POWER CORDS.) THEN REMEMBER TO FLIP IT BACK TO THE ON OR UP POSITION. IF YOU LOSE POWER WHILE CONNECTED TO SHORE POWER, THIS IS THE FIRST PLACE TO CHECK. THE SWITCH NEEDS TO FLIPPED BACK ON. THE SYSTEM MAY OVERLOADWITH ALL AIRCONDITIONERS RUNNING.)

Close the PORTHOLES, WINDOWS, and FORWARD HATCH. Be mindful of anything on the flybridge or bow areas that might blow off in the wind. Turn on your VHF and electronics. ASSIGN crew members their various positions. Once outside the marina, idle the engines while crew brings in fenders and lines.

Cruising

All close quarters maneuvering should always take place at the upper helm. To activate this helm the engines must be in neutral. Press and hold the “Key” button until the indicator light on that helm illumines steadily. You will need to do the same at the lower helm when you wish to operate the vessel from this helm.

Engage the GEARSHIFTS. The controls will engage transmissions at idle by moving forward to the first “click.” There is a moment of lag time between this click and the transmissions engaging. Be patient. Advancing the throttle levers too quickly will result in engaging transmissions at higher rpms which can damage transmissions. This “lag time” diminishes when transmissions are fully warmed up.

Cruising speed is a maximum of about 2,000 RPMS. If you run at 2000 RPMS you will cruise at 18 knots and use about 25 gallons of diesel per hour. Your speed will vary depending upon the weight and load and weather conditions. TRIM TABS can be put in the “bow down” position. The Trim Tabs will only prove effective when operating above 1800 rpms. Be sure to fully raise Trim Tabs (bow up) before maneuvering boat in reverse. Failure to raise Trim Tabs negatively effects how the boat handles and may damage the Trim Tabs if the vessel is operated in reverse.

Synchronizing the engines can be accomplished by pushing the “=” button on the engine controls. Be aware that you must shut this off when slowing down to begin maneuvering the boat. Failure to shut off synchronizers will result in both engines maintaining the same rpms.

Note -- Avoid higher engine speeds as it causes higher engine temperature, possible damage, and higher fuel consumption.

Docking

During docking, again use the FLYBRIDGE HELM for greater visibility to the stern. Have your crew make ready the lines and fenders and give clear instructions on how you will be docking. Often times your crew will need to step off from the swim step with the stern line. Another crew member will need to be at the bow or mid-ships to hand over the next lines. Using your thrusters in short bursts to hold the bow and stern against the dock makes mooring the vessel much easier and safer.

Rock TRIM TAB switches ‘ bow up’ position (8 to 10 seconds) to make slow-speed backing and turning easier. While moving slowly to the dock or mooring location, center the WHEEL (e.g. rudders straight) and use only transmissions and thrusters to maneuver the boat.

BOW and STERN thruster controls are at both helms as well as at the stern. Push the "on" switch at each control in order to operate them. Be aware the thrusters automatically shut off after 7 minutes. You will need to reactivate if docking is delayed. The active light will illumine when thrusters are on.

Fueling Up

Ocean Observer has two 400-gallon fuel tanks. OPEN FILLER CAP(S) located on aft, one on starboard side and one on the port side with a DECK FITTING KEY which is kept in a container in the salon.

MAKE SURE YOU HAVE THE RIGHT FUEL! DIESEL! DIESEL! DIESEL!

MAKESUREITISGOINGINTOTHERIGHTDECKFILL!

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 engine hour indicator. Also periodically have someone turn on the key to watch the fuel gauge.

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 near 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.

Replace each tank cap. Turn on blower before starting engines. *Caution -- Clean up splatter and spillage immediately for environmental and health reasons. Wash hands with soap and water thoroughly.*

BOATELECTRICAL

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 on stairway, left side, the DC AUXILIARY PANEL located stairway, right side , and the BATTERY SWITCHES FOUND on the aft bulkhead in the engine room. When not connected to shore power, batteries are providing all power. Therefore, monitor the use of onboard house battery electricity carefully with your volt meter located in electrical panel right side on stairway, and turn off electrical devices that are not needed. It is recommended if volt meter drops below 12 volts, then alternative electric source is suggested, i.e. the generator can be run. The generator switch is in the DC panel, top left when facing it. Be aware the *Ocean.Observer* is a generator dependent boat. Running the generator whenever underway is strongly recommended.

Additional breakers on the aft bulkhead in the engine room can be left unchanged except in the event of need to reset a “blown” breaker such as windlass or davit.

Most breakers are labeled by colored dots. Green signifies “usually on”. Red is “usually off” Blue dots are water pressure or water-related like pumps. Yellow signifies electronics or items to use cautiously. No dots are breakers signify irregular use or use with discretion.

110-Volt AC System

SHORE POWER supports all AC equipment and receptacles on board, as well as the battery chargers.

To connect to shore power, run the shore power cord out using the glendenning control located in the transom of the boat. Plug the 50-amp POWER CORD into the dock receptacle. Check the power rating/plug size of the nearest dock receptacle (that is 50-amp, 30 amp, 20 amp, or 15 amp).

If necessary, add a CORD ADAPTER located in engine room near the stairs atop the fuel tank(s). After connecting a correct configuration, turn the dock power on. Cords coming off the bow can be wrapped loosely around the bow line. Be aware that *Ocean.Observer* uses a lot of power and anything less than a 50 amp service will require careful power management.

At the ELECTRICAL PANEL, flip the SHORE CIRCUIT BREAKER on. Check for reverse polarity. Then turn on appropriate breakers for battery charger, refrigeration, water heater, and all systems you plan to operate. Watch the volt meter for load. If the load exceeds dockside breaker limits (50, 30, 20, 15 amp), you will pop your breaker. If this occurs, wait to turn on one of your systems (i.e. water heater) until your use of volts drop. Besides the breaker switches in the AC and DC panels, there is a main shore power breaker switch in the aft deck storage cabinet, accessed on the swim platform.

If your outlets fail to work, check your GFIs to make sure that they have not been tripped.

InverterPower

The INVERTER provides AC power to the 110-volt receptacle plugs (i.e. the microwave oven) when the boat is disconnected from shore power. The inverter does not provide power to the water heater or the battery charger. Your inverter panel is located just forward of the DC cabinet on starboard side on steps leading to the helm with an on/off switch. **Make certain that it is on under normal operation or the batteries will not maintain adequate charge.** The actual inverter is located on the bulkhead in the engine room.

The inverter's power source is the DC house or inverter batteries located in the engine room. The quantity of DC power is limited to the capacity of these batteries... Therefore, running hair dryers, toaster, coffeepots, space heater, etc. and will quickly discharge the house/inverter batteries. Use these items VERY SPARINGLY! Monitor your battery usage very carefully! You can use the generator when there is any question of using too much power.

When connected to shore power, the inverter automatically becomes a battery charger for the 12-volt HOUSE BATTERIES. Should you detect the inverter failing to charge the house batteries, check the circuit breaker in the AC Panel. And the inverter control panel. Also, there are circuit breakers located on the inverter box.

Generator

Ocean Observer requires significant power when not on shore-power. Plan to use your Northern Lights 16kw generator extensively. To start your GENERATOR, first check that your generator's fluids are topped off and the raw water intake is open. The generator control panel is located to the left of the DC panel. First pre-heat the generator for about 20 seconds with the upper pre-heat toggle switch. While continuing to hold the pre-heat push up on the start toggle switch to start. Hold both switches in that position while the generator catches and beings to run, then release both switches. *Ocean.Observer's* ultra-quiet generator exhausts its cooling water thru an underwater fitting in the engine room. The exhaust fumes exiting the hull on the port side aft are dry but already cooled.

After generator is running, turn your AC distribution switch to generator (or ship). Then turn on AC systems as you would on shore power one system at a time.

To turn the generator off, first take the load off by turning off AC breakers. Then turn off main AC distribution switch. Lastly kill the generator by holding the start/stop toggle switch down to “Off” until it shuts down.

HOUSE(12Volt)SYSTEM

6 battery banks support 12-volt DC power: 1) port engine start battery 2) starboard engine start battery 3) house battery bank 4) Generator start battery 5) Bow thruster 6) Stern thruster.

The MAIN BATTERY SWITCHES are located on the aft bulkhead in the engine room. Normally, leave the ENGINE/GENERATOR and HOUSE SWITCHES in the ‘ON’ position. *Note -- Do not change the position of the switches while the engines are running or the alternator diodes will be damaged. Change positions with the engines off.*

Your 12 volt panel shows the condition of your house batteries. Primarily you will be turning on the breakers for your lights, water pressure, electronics, etc. ***Bilge pumps should always be left on***. Your breakers should always be turned off after every use. The battery charger switches should be left in the on position.

HouseBatteryBank&Switch

The HOUSE BATTERY BANK provides power for all DC systems, except the engines, thrusters, and three automatic bilge pumps. When disconnected from shore power, all 12-volt devices drain the house battery. Use devices as needed. The DC voltmeter on the DC panel provides levels only for the HOUSE BATTERY BANK.

When a battery bank is being charged, the voltage will read from about 13.1 volts to 14.4 volts depending upon state-of-charge of the battery bank. When the battery bank is at rest, (that is, not being charged), the voltmeter can give a rough indication of the state-of-charge of the battery bank.

Start batteries are charged by the port and starboard 24v alternators while underway. The house batteries are charged by the 12v alternator on the Port engine while underway, and also can be charged by the Magnum battery charger when connected to shore power or running the generator. Ensure the Battery Charger(s) and Inverter circuit breakers at the electrical panel are ON.

Voltage (Wet Cell Battery)	Battery State
12.65 volts	100%
12.47 volts	75%
12.25 volts	50%
11.95 volts	25%
11.70 volts	0%

BatteryParallelSwitch

Each ENGINE BATTERY is connected to its corresponding engine. However, should one engine battery be insufficiently charged to start its engine, use the generator and battery charger/inverter to bring battery levels up.

SANITATIONSYSTEM

MarineToilet

Ocean Observer uses very reliable Vacuflush heads. Despite the quality and reliability of these toilets, 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 RESONSIBILITY! 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.*

To use the toilet, ensure that the Toilet switch near toilet is in the on position (on is the down position, in other words press where it says TOILET) This builds pressure in the vacuflush system. To add water to the bowl simply lift the foot pedal with your toe. After using the toilet, depress the foot pedal firmly (almost to floor) and it will flush. Hold for a few extra seconds to get the waste sufficiently moved away from the toilet and into the holding tank. Release the pedal and let it snap back into the original position, the toilet will fill a small amount of water, lift the foot pedal again for more water. Watch to see if the ball goes back into the center position inside the toilet bowl. Clean the toilet as necessary.

The overboard THRU-HULL is located on the starboard side aft in the lazarette. Keep this in the closed position in US Waters, open when using the discharge system. Clean the toilet as necessary.

HoldingTank

The sanitation HOLDING TANKS hold approximately 50 gallons each. There are two holding tanks, one used by each bathroom and one on the port side and the other on the starboard side in the engine room forward. Two stainless caps are located on the starboard side, mid-ship for pump-out. 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 indescribable catastrophe and an EXPENSIVE FIX to you. Empty the tanks EVERY OTHER DAY as necessary to avoid this problem. Watch the effluent gauges. Rule of Thumb: When half full, empty. There are pump out services in some marinas that will come to the boat as a convenience and pump for a reasonable fee.

The HOLDING TANKS are located in engine room. Some may be subject to a visual check with a flashlight or the “watermelon” test by thumping it. There is a tank watch warning light located in each head sometimes you cannot rely upon this as they can get clogged. When moored at marinas, one might choose to use the marina facilities to save space on the boat holding tanks. Shower facilities are usually available at some marinas.

The holding tank is emptied in one of two ways:

#1 At the Marine Pump-Out Station, remove the WASTE CAPS located on the starboard side, mid-ship. Insert the pump-out nozzle into the waste opening. Double-check your deck fitting to make sure you have a seal, keep pressure on it! Turn on pump and open valve located on handle.

When pumping is finished, close lever on handle and turn off pump. Repeat for second waste tank. 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 re-pump to leave the tank rinsed for the next charter. This also eliminates head odors.

#2 The tank's contents can be discharged with the MACERATOR only in Canadian waters. To do this you must ensure that the secondary Waste Pump switch is pulled to the on position, this is located forward of the Starboard motor. Additionally, it will only pump one tank at a time and there is a valve to select which tank you are connected to, on the ceiling near that secondary switch.

To operate the macerator, confirm that the overboard discharge valve is open. It is located in the lazarette, starboard side aft. Once the overboard is confirmed open and the secondary switch is on, turn on the primary WASTE PUMP breaker on the main 12-volt panel. Discharge may be observed on the starboard side from the cockpit. It should only take a few minutes to empty the tank. When both tanks are empty, push the toggle switch in to turn off the pump and turn off the WASTE PUMP breaker on the 12-volt panel. Pump out only in Canadian waters and in areas of open, flowing current, no bays or marinas.

Y-Valve

As stated above, the Y-valve is located in the engine room but it only signifies which tank you are pumping out with the overboard discharge when in Canadian waters, you do not need to operate the Y-Valve for normal pump out operations at a marina.

FreshWaterTank(s)

There are two FRESH WATER TANKS AND EACH hold 100 gallons. Observe the water level by looking in the DC cabinet on stairwell.

To refill the tank, remove the WATER CAP(S) located on outside starboard side. 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 in the engine room starboard side.

FreshWaterPressurePump

The WATER PRESSURE PUMP is located in the engine room starboard side forward. Activate pump at the DC panel by turning on the breaker. If the water pump continues to run, you are either out of water or might have an air lock and need to bleed the system by opening up a faucet. If you run out of water SHUT OFF YOUR HOT WATER HEATER on the AC panel. Serious damage can occur!

HotWaterTank

The HOT WATER HEATER has a 20-gallon capacity tank and is available when connected to shore power, using the generator, or via a heat exchanger from the mains while underway. To use on shore power, ensure that the water heater circuit breaker is on in the AC electrical panel. Do not use the water heater if the water tank level is very low. The water heater is located in the engine room, starboard side forward, near the center.

Shower

Before taking a SHOWER, make sure water pressure and hot water breakers are on. Sump pumps for the shower have breakers in the engine room and are on for normal operation. 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. Check for accumulation of hair in the shower and sink drains. An additional FRESH WATER SHOWER is located on aft swim deck. Ensure that the faucets and nozzle are completely off after use.

A pressured RAW WATER WASHDOWN is available from two hose spigots, one in the swim step locker and one forward in the bow locker near the anchor windlass. To activate, flip the WASHDOWN PUMP ROCKER SWITCH located in the 12-volt panel. After use, turn the switch off to prevent pump burn out, and ensure no object leans on the switch to turn it on accidentally.

GALLEY

Stove

The cooktop in the galley is electric. Turn on the "Range" breaker on the AC panel. Clean stove top each use. Do not use abrasive cleaners on the stove top.

Refrigerator

The Nova Cool REFRIGERATOR/FREEZER is dual voltage (12-volt and 110-volt power). It will automatically use 110-volt power when the shore power is connected; otherwise, it will operate on 12-volt power. Monitor the use of the refrigerator when the engines are not charging the 12-volt battery system. The local power switch is located below the front door. It can be turned down to the lowest position when anchored or moored or turned off when turning in for the night.

HEATINGSYSTEM

Built-inCabinHeat(AC)

MAIN CABIN AND STATEROOM HEATERS keep each space at the desired individual temperature. Controls are located in the main salon port side and in each stateroom. To make heat available you must be on shore power or using the generator. Turn on all the AC power breakers on the main AC panel. Press POWER at the thermostat in salon and staterooms, scroll through "Mode" options to HEAT, set desired temperature and fan speed.

ELECTRONICS

Ocean Observer's Pilothouse and Fly Bridge have the GARMIN touch screen Multi-Function displays as an integrated navigational system. Both of the main instruments at the lower helm provide radar, plotter, Depth information in full screen mode or split screen, depending on your preferences.

They turn on by pressing the "On" button and accepting the terms of use by pressing OK. You may access the navigational mode you desire by scrolling through the options using the "Home" button on the upper Left-hand corn of each instrument.

You may find it helpful to dedicate one instrument to one mode and the other to a different mode. For example, have one instrument set to plotter/gps and the other to radar. Or, have one set to plotter/radar in large scale and the other to plotter/depth in small scale to see your local position in detail as well as your destination. All electronics manuals are located in the bottom right drawer in the master cabin.

VHFRadio

There are two VHF RADIOS. The first is located in the lower helm to the right of the steering wheel. Make sure the Electronics Main breaker is on located at the DC panel. There is a second VHF RADIO located at left side of the upper helm. Wired handheld units are included at each station. Volume controls are located on speakers near the VHF controls. Always monitor channel 16 while underway.

DepthSounders

Select Sounder on Garmin MFD but should also display on every choice of screen.

A second identical DEPTH SOUNDER is located at the upper helm.
*Remember to **ALWAYS** consult your charts for depth!*

Note -- *GPS is considered a navigation aid. Do not rely on it. Compasses, charts, and dividers are the tools to plot position, course, and speed.* They are between the seat and window pane on the port side of helm.

ENTERTAINMENTSYSTEMS

AM/FMStereoRadio

The Sony brand stereo unit is located on the aft port side of the salon It operates like a normal car radio. There are Clarion speakers in the salon, galley, cockpit and on the flybridge. There is a Bluetooth receiver that you can connect to at the main stereo in the salon.

The CD changer unit is located in the salon, and there is also a CD player in the main cabin. The CD changer control panel is left of the master stateroom bed. To activate the control panel, push the play button.

To remove the CD changer cartridge at the bottom of the cabinet, slide the cover to the right and push the eject button.

TV

A 32" Flatscreen tv is mounted in the salon. There is an HDMI cable for easily connecting a laptop or other device. There is also a TV mounted in the master cabin.

ANCHORING

The primary WORKING ANCHOR is a 60 lb. Delta and is attached to 300 ft chain passed through the deck from the ANCHOR LOCKER The locker can be accessed through the forward starboard deck hatch and a side hatch within that locker.

The main breaker for the windlass is located in the engine room on the aft starboard bulkhead. It can remain on and does not need to be touched unless it pops under heavy load. The WINDLASS POWER SWITCH is located at the lower helm. Switch this on and go up on the bow to lower the anchor. At the bow remove the restraining lanyard, tap gently on the 'down' foot control to lower the anchor. If necessary, gently guide the anchor over the anchor roller to prevent binding on the pulpit.

Let out sufficient ANCHOR RODE (chain) before setting the anchor. Colored marks are- 25' WHITE, 50' BLUE, 100' GREEN, 150' BLUE, 200' YELLOW(END). 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. Once the anchor sets, slack out additional chain to a minimum of 4 to 1 scope. Let out additional scope dependent upon conditions. Turn off WINDLASS SWITCH at lower helm.

Before raising the anchor, ALWAYS start the engines as it uses large amounts of power.
Turn 'on' the WINDLASS SWITCH and slowly maneuver the boat toward the anchor. As the boat moves toward the anchor, press the 'up' control to take up slack line. Give the windlass short rests as you are pulling it up. Place yourself in position to guide the anchor onto the roller. As the anchor rises, be careful not to allow it to swing against the hull. Wash it down if you have a wash down pump before it goes into anchor locker.

Reconnect the keeper between the anchor and windlass. Close the plastic covers on the FOOT PEDAL CONTROLS. Turn 'off' the WINDLASS POWER SWITCH.

A SPARE ANCHOR is normally stowed in the aft cockpit area.. The aft SPARE ANCHOR RODE is located in the aft cockpit with the anchor. Attach the rode securely to the chain shackle.

***Ocean Observer* is bigger than rules allow for mooring to Washington Parks bouy/cans.**

BARBECUE

The BARBECUE is permanently mounted on the aft cockpit rail. Open the hatch on the swim step locker to access the propane tank. Attach hose to the barbecue, ignite, and bon appetite! Please wipe up any spillage around the barbecue to prevent soiling the cockpit or swim step. Shut propane off and disconnect hose after use.

Ensure gasoline and flammable materials are not near the barbecue.

DINGHY&OUTBOARDMOTOR

Your 2001 Rendova 12' Rib DINGHY with 40HP Honda outboard is stored on the flybridge. Use the davit control located in the seat nearest the dinghy on the flybridge. Please be careful as you near shore so that the lower unit or propeller of the motor does not hit the bottom. You are better off stopping and raising the motor early and paddling the last few yards to the beach. Before launching think about the sea conditions and try to be in as calm and wind protected spot possible.

When fueling the dingy remember the motor is a 4 stroke and uses straight gas. **DO NOT USE PREMIXED GAS OR GAS WITH OIL IN IT.** Whenever possible, purchase ethanol free gasoline for the dinghy engine.

PFD'S: Coast Guard regulations state that any child 14 and under must wear a life jacket in a dinghy. It is a good idea for EVERYONE to follow this rule. There are two stored in the cockpit

locker, aft deck. There are seven PFD'S stored in the cabinet on the bridge, on the starboard aft end.

CRABBING&FISHING

Always check the fishing and crabbing requirements before you leave on your cruise. You will need a license. Many areas are CLOSED to crabbing and fishing on certain months.

CRAB AWAY FROM THE BOAT! Lines can get wrapped around props. Fish-flavored cat food, turkey legs, or chicken backs are great bait. After 15-20 minutes, retrieve the crab line and ring quickly. Measure the crabs using the CRAB MEASURING GAUGE inside the pocket of the crab trap cover. Keep the male crabs of proper size (usually 6 ¼ inches across the carapace). Boil crabs about 15 minutes to cook. Cleaning crabs before boiling saves space in the pot and makes for much cleaner move from pot to table. ***Please cook all crab on the swim-step platform to avoid smelly boilovers.***

After using, wash equipment thoroughly with fresh water (available from the cockpit shower faucet). *Note -- Please do not store wet rings and gear inside the boat.*

OTHER:Safety&BilgePumps

SAFETY should be paramount in your daily cruising. A MAN OVERBOARD DRILL should be discussed and perhaps even practiced with a life jacket. Remember your lifejackets are stowed in the cabinet of the lazerette in aft of boat. A few should always be out and ready. Your flares and safety equipment are located on bridge, starboard aft cabinet.

Ocean Observer is equipped with an AUTOMATIC BILGE PUMP. The master switch is located on the electrical panel. Normally, the switch will be left in the AUTO position. Ocean Observer has dripless shaft logs, so there should not be any pump operation unless water enters from another source.

The ENGINE SPARES BOX is stowed to be stored near the stairs in the Engine Room / Lower Cockpit area. This includes oil filter, raw water impeller, pump parts, injectors, and other small parts.

THRU-HULLLOCATIONS

A thru hull fitting diagram is located in the owner's manual in the starboard salon book shelf. The diagrams are on p. 9.7.3 in the manual.