

# OPERATIONS MANUAL



## *Sea Star*

Welcome aboard!

We are happy you have chosen *Sea Star* for your vacation.

*Sea Star* has had many exciting cruising adventures to the Islands of the Pacific Northwest over her long career. She stands ready to now take you on the trip of a lifetime.

We hope this manual will help you become familiar with her. If you have questions about the *Sea Star* or about places to visit, please do not hesitate to ask the AYC staff.

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# BOAT OPERATION

## Pre-Start-Up Engine Inspection

Remember your **“WOBBS”** every morning: Water (Coolant), Oil, Bilges, Belts and Sea Strainer.

Check the level of **Water** (coolant) in the expansion tanks. Check the level of **Oil** by checking the dipsticks located on the inboard side of each engine. Look at the etched marks on each dipstick that indicate the proper oil level. **DO NOT OVERFILL THE OIL!** Only fill if oil levels if they are below the ½ way and then only bring to the ½ mark. Spare oil is stored on the outboard side of the STARBOARD engine. Please use a paper towel or oil rag (provided in the engine compartment), not the dish towels!

Check that the **Bilge** pumps are pumped out (located under the floor panel at the aft of the engine room). Check the general condition of the **Belts**, hoses, and fuel lines.

Check that the **Strainer** valve on each RAW WATER THRU-HULL (located near the front of each engine) is in the ‘open’ position (the “copper pipe” handle should be in-line with the valve/line). Once the engines are started you will observe water swirling through the clear cover on each RAW WATER STRAINER. If necessary, close the seacock, open the strainer cover, clean the strainer, and reassemble. Remember to reopen the seacock



prior to starting the engine.

## Engine Start-Up

Switch the shore power breakers on the boat and at the Shore Power Pedestal to the OFF position and disconnect the shore power cord (see 110-Volt section).

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”. THROTTLES should be run up and then brought *almost* back to the idle position. Insert both keys into the IGNITION SWITCHES. Normally, start the PORT engine first.





Turn the key clockwise until the OIL PRESSURE alarm sounds and count to 5 to allow the glow plugs to pre-heat the engine. Press the appropriate START button to start the engine. If the starter does not engage when the button is pressed, move the appropriate gearshift lever slightly to ensure the transmission is in neutral, then press the start button again. Repeat to start the second engine. If the engine won't start, then check shifters on the upper helm and try again. Low oil pressure alarms should be silent after engines are running. NOTE: If alarms do not stop, turn off the engine and check the oil level. Call AYC if the alarm persists.

If the engine cranks slowly or fails to turn over, check the condition of the battery by verifying the voltage level is at 12V or above on the voltmeter of the ELECTRICAL PANEL. If the battery voltage is low, turn the BATTERY PARALLEL SWITCH to "both", to parallel the Engine Battery to the House Battery. Return the battery selector switch to the Start (S) position while engines are at idle.

Move the THROTTLE to raise the engine speed to 1000 rpm on the TACHOMETER. Warm the engine for about 5 minutes before engaging the transmission. Observe the readings of the oil and temperature gauges. The oil pressure should register about 40 PSI. The engine temperature should rise slowly to a normal operating temperature of around 180 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 (out the back tailpipe), 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.*

## Getting Underway and Cruising

Close the PORTHOLES, WINDOWS, and FORWARD HATCH. Turn ON your VHF and electronics. ASSIGN crew members their various positions. Idle the engines while crew brings in the fenders and lines.

Close-quarters maneuvering should typically take place at the flybridge helm where visibility is best. Close quarters maneuvering should ALWAYS be done **SLOWLY**, with the engines always in idle.

**Ensure the throttles are in the 'idle' position before engaging the gearshifts to avoid transmission damage.** Momentarily bump the engine(s) into and out of gear to start the boat moving. Use differential control (one engine in forward and the other in reverse) to turn the boat.

Once out of the Harbor you can increase the throttle above idle. Typical cruising speed is around 8 knots at about 2000 RPMs. Maximum cruising speed is at about 2200 RPMs which will result in about 10 knots but at a burn rate of about 8.5 gallons of diesel per hour. Your speed will vary depending upon the load weight of the boat, the current and wind conditions.

*Note -- Avoid higher engine speeds as it causes higher engine temperatures, possible damage, and higher fuel consumption. Do not exceed 2300 RPM.*

## Docking

When docking, use the FLYBRIDGE HELM for greater visibility all around. Have your crew make ready the lines and fenders and give clear instructions on how you will be approaching the dock. Often times your crew will need to step off the boat from the swim step with the stern line if someone else is not already on the dock who is able to help. Another crew member will need to be at the bow or mid-ships to hand over the bow and spring lines.

## Shut Down

Before shutting down the main engines, allow them to 'idle' for about 5 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 the engines off by depressing each black STOP BUTTON.

## Canvas

The canvas on the forward hatchway can be removed and stowed in the forward cabin to allow airflow into the forward cabin. The canvas on the aft cabin accessway can be removed and stowed in the aft cabin to provide access through the aft hatchway. The windows of the flybridge can be unzipped, rolled and fastened up to allow better airflow.

## Fueling

**MAKE SURE YOU SELECT THE RIGHT FUEL, DIESEL! GREEN HANDLE! MAKE SURE IT IS GOING INTO THE CORRECT DECK FILL PORT! DOUBLE-CHECK!**

Before pumping, have an oil/fuel absorbent pad handy to soak up all spilled fuel. OPEN the FILLER CAP(S) labeled "DIESEL" located midships on each side of the salon. Use the deck fitting key, which is kept on a hook next to the paper towel holder on the Port side of the salon.

You should have a rough idea of the number of gallons you will need by the engine hours accumulated since the start of your trip (2-8 gallons for each hour of operation). Also periodically have someone observe the sight-glass, located on the forward end of each tank. You can observe the Port tank sight-glass from inside the engine room. The Starboard tank sight-glass is best viewed from the access door under the stairs of the forward cabin. Fuel Gauges are also located at the lower helm.

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 trapped air to escape the tank, which may result in fuel spurting from the tank fill 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 and tighten each tank filler cap. *Clean up splatter and spillage immediately for environmental and health reasons. Wash hands with soap and water thoroughly.*





# BOAT ELECTRICAL

## 12 volt /DC Panel

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, the DC PANEL and the BATTERY SWITCHES located to your right, going down the forward cabin stairs.

When not connected to shore power, batteries provide all power. Therefore, monitor the use of onboard electricity carefully with your HOUSE BATTERY Voltmeter. Turn off electrical devices that are not needed. Turn on the breakers for your lights, water pump, electronics, etc. as required. Bilge pumps should always be left on.

Most breakers are labeled with a description and or colored dots/ labels. 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. Breakers with no dots attached signify irregular use or use with discretion.







## Shore Power

SHORE POWER supports all AC equipment and receptacles on board, as well as the battery charger. To connect to shore power, check the power rating/plug size of the nearest dock receptacle (30-amp, 20 amp, or 15 amp). If necessary, add a CORD ADAPTER located under the lower helm seat. To plug the 30-amp POWER CORD into the boat turn off all AC main breakers on vessel, turn off the AC main breaker on shore pedestal insert each end appropriately. Turn the dock power breaker, Turn on the ships AC breaker and on.

Cords coming off the bow can be wrapped loosely around the bow line.



The main SHORE POWER breaker is located above the hanging locker in the forward cabin. Ensure the Gen/Shore power located to right of lower helm steering wheel power selector switch is set to shore. Flip it up to turn it on. Check that the reverse polarity red light is not illuminated. Also, at the ELECTRICAL PANEL, flip on the secondary SHORE POWER circuit breaker. Then turn on appropriate breakers for battery charger, refrigeration, water heater, etc. Watch the voltmeter to monitor the status of the house battery bank. If the load exceeds rating of the shore power breaker, you will trip the breaker. If this occurs, turn off some of the AC load and wait to turn on one of your systems (i.e., water heater) until your use of power drops.

If your 110 V outlets in the gallery fail to work, check your GFIs to make sure that they have not been tripped.

## Inverter

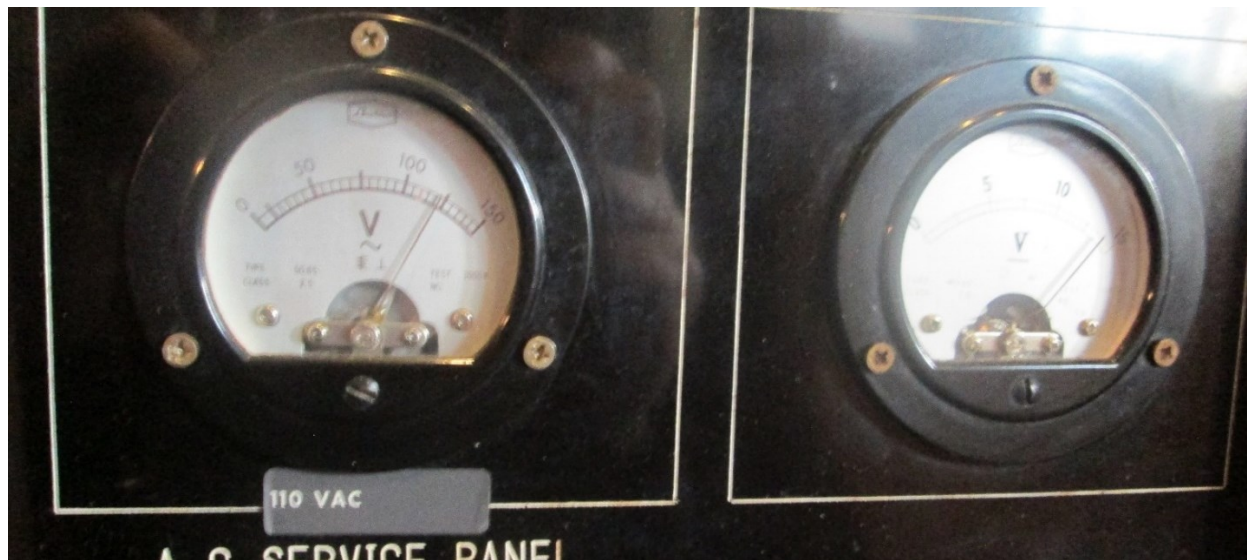


The INVERTER provides AC power to the 110-volt receptacle plugs (i.e., the microwave oven) when the boat is disconnected from shore power. The inverter does not provide power to the water heater or the battery charger. Your inverter panel is located left of the ship's wheel with a push button on/off switch. Make certain that it is on. The actual inverter is located on the aft bulkhead of the engine room.

The inverter's power source is the 12-volt DC house/inverter batteries located down the center of the engine room under the floorboards. The House battery bank is under white opaque battery box covers. The quantity of DC power is limited to the capacity of these batteries... Therefore, running hair dryers, toasters, coffeepots, space heaters etc. will quickly discharge the house/inverter batteries. Use these items VERY SPARINGLY! Monitor your battery usage very carefully! ☹

When connected to shore power, the inverter/charger automatically charges the 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.





## Generator

Your Northern Lights generator is the large white metal cabinet forward of the starboard engine in the engine compartment. The oil dipstick is located behind the round screw-off access port on the forward side of the generator cabinet. The generator coolant reservoir is on the aft side of the generator cabinet. Before starting the generator check that the oil and coolant fluids are OK (add some if necessary) and that the raw water intake (located in the center of the forward bulkhead) is open.

The generator controls are located to the right of the boat's steering wheel.

The generator has its own start battery. That battery can be paralleled with the house battery if necessary, using the selector switch, located below the panel. This switch should normally be left in the OFF position.

To start the generator, turn the selector switch to GEN, push up the preheat and hold the pre-heat coil for about 5 seconds to heat up the glow plugs. Then while still pre-heating on, press up and hold the START switch to turn-over the generator. You should hear it right below you in the engine room. Hold the switch in that position while the generator catches (about 5-10 seconds). Make sure water and exhaust are exiting the



Port side of the boat, adjacent to the stove. The generator meters, located down and to the left of the steering wheel, will indicate AC load, Volts, and Frequency being delivered by the generator.

Turn on AC circuits as you would when on shore power, one system at a time. Note, when running, the generator will charge the house and start batteries, and run any AC loads desired. The generator is large enough that it is better for it to have significant load on it, so now is the time to use the water heater, microwave and any other AC devices. Try to minimize running the generator when very lightly loaded (few AC loads) as this is harder on it than having it heavily loaded.

To turn the generator off, first switch OFF all AC loads by turning off AC breakers. Lastly depress and hold down the START/STOP switch until it stops.

## House Battery (12-Volt) System

The HOUSE BATTERY BANK provides power for all DC systems like electric toilets, cabin lights, and electronics. When disconnected from shore power, all 12-volt devices are powered off the house battery. Use devices as needed, but sparingly.

The BATTERY SELECTOR SWITCH is located going down the forward cabin stairs in closet adjacent to the ship's wheel.

Normally, leave the switch in the HOUSE 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.*

When the 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.

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

Your engine and house batteries are charged by the engine ALTERNATORS while underway. The engine/house batteries are also charged by the INVERTER/CHARGER when connected to shore power. The GENERATOR will also charge all batteries when it is running.

## Engine-Start-Battery-Parallel-Switch

Both engines are started by a single separate start battery (located in the center of the engine room, under a removable floor panel). However, should that engine start battery be insufficiently charged to start either engine, the house battery may be momentarily connected to start either or both engines. Switch the BATTERY PARALLEL SWITCH located in the engine room on the starboard wall behind the starboard engine to "House". After the engines start up, switch the battery parallel switch back to its previous position to separate the two batteries.

# SANITATION SYSTEM

## Marine Toilet

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.**

Both toilets have electric flush.

To flush the forward toilet, leave the rotating SELECTOR SWITCH to the 'left' (wet bowl). Flush by pressing the push button located on the wall behind the toilet. Depress it long enough to move effluent into the hoses/holding tank; heavy effluent may clog hoses. This toilet uses raw water to flush. The INTAKE THRU-HULL is located in the engine room, forward of the Port engine if you need to shut off the water to the toilet.

To flush the aft toilet, pull out the knob on the wall, then depress the upper end of the front rocket switch to add water, then press the lower end of the rocker button to suck effluent in the hoses/holding tank; heavy effluent may clog the hoses.

Clean the toilet as necessary.

## Holding Tank



There are two sanitation HOLDING TANKS, one holds approximately 40 gallons, the other holds approximately 35 gallons. The HOLDING TANKS are located in the forward cabin, one under the mattress, under a removable panel, and the other under the floor. Only the 35-gallon one can be checked visually. Check the fill level by a visual check with a flashlight or with the "watermelon" test by thumping it. There is a tank watch warning light located on the wall of the forward cabin, starboard side, above the hanging locker, but do not rely upon this as they often get clogged. The holding tanks are emptied in one of two ways:

#1 At the Marine Pump-Out Station, remove the WASTE CAPS located right next to each other, on the starboard side, just forward of midship. Insert the pump-out nozzle into the waste opening. Double-check your deck fitting! Turn on pump and open valve located on the handle. When pumping is finished, close the lever on the handle and turn off the pump. Remove from deck fitting.

If there is a water hose on the dock, rinse the tank by adding water into the tank for about 2 minutes. Then pump out the Tank again to leave the tank rinsed for the next charter. This also helps eliminate head odors. An expandable flexible hose is available for salt/non potable water washdowns, which can be found in the rear lazarette locker. (Do not use the white POTABLE WATER HOSE marked for POTABLE WATER ONLY.)

#2 In an emergency, the tank's contents can be discharged into the ocean with the MACERATOR *but ONLY in designated Canadian waters.*

To operate the macerator, Confirm the macerator thru-hull is open. It is found in the engine room starboard side then Locate the switch inside the forward cabin hanging locker.

Depress the MACERATOR ROCKER SWITCH. Listen to the macerator's sound. When the pitch becomes higher, the tank is empty. Discharge may be observed on the Starboard midship side. It should only take a few minutes to empty the tank.



## Y-Valve

The Y-VALVE (installed on the forward toilet) directs waste effluent into the sanitation-holding tank or flushes the effluent 'directly overboard'. The Y-VALVE is located just behind the forward toilet). A plastic strap keeps the handle pointed to the holding tank – the normal position. *Y-valves is zip-tied to the holding tank position due to Coast Guard regulations. Leave it "as is" unless there is an emergency. Be familiar with the applicable laws concerning dumping sewage directly overboard.*

# **WATER SYSTEM**

## **Fresh Water Tank(s)**

The two FRESH WATER Tanks hold 50 gallons each for a total of 100 gallons. A manifold connects the two tanks together. Check the water level by observing the single sight glass by opening the lazarette access cover at the aft end of the boat.

To refill the tanks, remove the WATER CAP(S) located either side of the lazarette opening. Avoid flushing debris from the deck into the tank opening. DO NOT fill with water and diesel at the same time to ensure no water gets into diesel or diesel water tanks. It will be an expensive fix.



## **Fresh Water Pump**

The WATER PRESSURE PUMP is located in the engine room, forward of the Port engine. Activate pump at the DC panel by turning on the breaker labeled "PRESSURE PUMP". The pump will pressurize the freshwater system. 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 a faucet. If you run out of water SHUT OFF YOUR HOT WATER HEATER on the AC panel. Serious damage can occur!

## **Hot Water Tank**

The HOT WATER HEATER has a 10-gallon capacity tank. Hot water is available when connected to shore power, Generator powering the electric water heater or via a heat exchanger while underway. To use on shore power, flip ON the water heater circuit breaker at 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 forward of the Port engine.



## **Shower**

Both heads are equipped with a freshwater shower. Before taking a shower, make sure the water pressure and shower sump breakers are ON. Take only very short “boat” showers (turning off water between soaping up and rinsing). To keep each shower tidy wipe down the shower stall and floor when finished. Check for accumulation of hair in the shower and sink drains. Ensure that the faucets and nozzle are completely off after use.

## **Anchor Washdown**

A pressurized RAW WATER WASHDOWN is available from a hose spigot at the bow of the boat, next to the anchor windlass. To activate, flip the PUMP switch located on the main DC panel. After use, turn the switch off to prevent pump burn out.

## **Wash Basins**

Each head is equipped with a wash basin located in a pull-out drawer above each toilet. Just pull out and use. Water Drains overboard via thru hulls.

## **Bilge Pumps**

Bilge pumps (three each, with their own float switch to activate) are located under a removable floor panel in the forward engine room. The Bilge Pump control panel is located just to the left of the steering wheel. The pumps can be manually turned on by moving the switch to the left, switched OFF by placing the switch in the center position, or set to automatically come on when sufficient water accumulates in the sump area to activate the float switches. LEAVE IN THE AUTO POSITION. A separate float switch is connected to activate the main sump and a high-level water alarm, which sounds at the Bilge pump panel.

# GALLEY

## Stove/oven

The stove and oven are propane/LP gas.



Your propane stove is activated by the following steps:

#1 Turn on the propane tank valve located on the Fly Bridge, behind the two center doors, to the Port side of the Upper Helm station. Pressure can be checked by looking at the gauge on the tank.

#2 Turn on the "LP Gas" switch, located Port side, above and to the right of the stove, which activates a solenoid valve to provide gas from the tank.

#3 Light each desired burner by pressing, turning and holding the gas burner knob to start the flow of gas. At the same time turn the striker knob on the left side of the stove. Press and hold the knob for a couple seconds to allow its flame sensor to heat up enough to keep that individual gas valve open.

The same applies to lighting the oven. When you finished cooking turn off the burner/oven knob. When leaving the boat turn off the LP gas switch on the LP Panel and turn off the valve on the LP gas tank. There are 2 tanks located under the flybridge cabinet. If you run out of propane, please use 2<sup>nd</sup> tank.



## Refrigerator

The REFRIGERATOR is dual voltage (12-volt and 110-volt power). It will automatically use 110-volt power when 110 V power is available from shore power or the Generator; otherwise, it will operate on 12-volt power. Monitor the use of the refrigerator when the engines or Generator are not charging the 12-volt battery system. The AC and DC breakers for the refrigerator are located in the main electrical panel going into the forward cabin.

# HEATING SYSTEMS

## Diesel Heater (DC)

The Eberspacher DIESEL FORCED-AIR FURNACE (located in the engine room, to the Port side, aft) provides heat in the same way as a household furnace. The furnace control panel/thermostat is located just above the rounded corner of the salon bench. The furnace can be set in one of two modes; Fan or Heater. Turn the Heater ON by pressing and holding for about two seconds the button on the upper right portion of the furnace panel. A green indicator light will be lit indicating the furnace is on. The furnace takes a few minutes to start up and provide heat. Cabin heat is delivered from three vents, one near the floor below the sink in the salon, one near the V of the V berth in the forward cabin, and the last on the side of the aft cabin berth.



Set the THERMOSTAT to the desired temperature by pressing and holding the up or down arrows until the desired temperature is displayed. Quickly depressing the up or down buttons will display what the furnace is set for. When you release the up or down arrow the current cabin temperature is indicated.

The furnace can be set to “Fan” mode by pressing the fan button on the upper left of the control panel, which illuminates a “green” light. When in Fan mode the fan will operate, but without heat, the thermostat will not function, and no temperature will be indicated.

Check the furnace EXHAUST PORT located on the Port side just aft of the main salon door, for any obstruction such as fenders or lines. Do not block this opening when operating the furnace. Heat will damage the surrounding fiber glass or whatever is obstructing the exhaust port. Once the furnace is on, allow it to run for at least 15 minutes before turning it off. Turn the furnace off by pressing the heater button until the green light turns off.

## Engine Heat

Four CABIN HEATERS are available to provide heat only while underway. The engines provide heat in the same way as a car heater. The heater in the main salon is at the forward end of the bench seat. Turn the HEATER FAN to HI, LO or OFF. When engines are not running, turn the heater switch off to conserve batteries.

A similar heater is located in the forward and aft cabins behind the stairs. A similar HI, LO, or OFF switch is provided. Again, when the main engines are not running, turn the heater switch off to conserve power.

The last cabin heater is in the flybridge, Starboard side between the front and back seats.



# ELECTRONICS

All electronic manuals are located in the expanding file. Turn on the breaker at 12V panel marked electronics.

## VHF Radio

There are two VHF RADIOS installed. The first is an ICom IC-M127 located forward in the salon, in the center of the instrument panel. The second VHF RADIO located in the main salon fly bridge, is a Uniden UM385. Always monitor channel 16 while underway.

A Horizon LH5 hailer is located just in front of the transmission in the main salon.

## Garmin GPSMAP Multifunction display, with RADAR

There are two Garmin GPSMAP 943XSV multifunction displays installed in the boat, one at each helm station. They both work identically.

To operate either, press the POWER button. Adjust the scale and gain as desired.

If in doubt, switch it off, then turn it back on to reset the sounder. If your reading is blinking, it is FALSE reading. False readings can occur in depths of more than 200 feet or in areas of strong currents or tides.

*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.*

# **ENTERTAINMENT**

## **AM/FM Stereo Radio**

The Kenwood brand stereo unit is located on the back wall of the salon. It operates like a normal car CD/Bluetooth/AM/FM radio. There are two speakers (stereo) in the salon and two (stereo) on the fly bridge. The FADER is used to turn the speakers in the salon or on the flybridge or both. It also controls the distribution of the salon and flybridge speakers. The BALANCE controls the sound distribution in the left and right speakers.

## **TV/VCR**

This vessel does not have a TV or VCR installed.

# ANCHORING

## Windlass



The WINDLASS POWER SWITCH is located at the lower helm just below helm. The primary WORKING ANCHOR is CRQ and is attached to 300 ft chain and passed through the deck from the ANCHOR LOCKER.

The locker can be accessed through the doors at the front of the V-berth. There is an anchor keeper tied to the capstan and hooked onto the anchor chain. There is also a keeper rod inserted through the chain. These keep the anchor secure while underway.

Unhook the keeper and remove the rod to allow the anchor chain to withdraw from the anchor locker.

Let out sufficient ANCHOR RODE (chain and nylon line) when setting the anchor. Colored markers are placed every 25 feet on the chain and nylon rode, indicating the amount of rode.

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.

Slowly loosen the friction plate wheel to slowly drop the anchor. This is a gravity drop and be mindful of letting out chain too fast. It is best to let it out slowly keeping the brake / friction handle only open enough to pay out a controlled pace.

Before raising the anchor, ALWAYS start the engines as Windlass will use large amounts of power. Turn 'on' the WINDLASS SWITCH and 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 STOPPER Close the plastic covers on the FOOT PEDAL CONTROLS. Turn 'off' the WINDLASS POWER SWITCH.

A SPARE ANCHOR is normally stowed aft deck hatch. The SPARE ANCHOR RODE is in aft deck lazarette Attach the rode securely to the chain shackle.

## Mooring Cans

If Mooring can is available, you may use it. You only need to register and pay at the kiosk usually located at the heads of the docks. Mooring cans 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 CAN into the wind as you would for anchoring. Have crew members 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 can have the crew holding the boat hook point at the can with the hook, so the skipper always knows where it is. Hook the can and bring the ring up to the boat to allow the second crew to thread the ring with the line. Release the hold 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 can.



## BARBECUE



The BARBECUE is located on the mid-level Starboard side.

Open the PROPANE BOTTLE valve and carefully light the unit with a long-stem butane lighter. The barbecue generates a lot of heat and cooks hot and fast. Please wipe with a paper towel before storing to prevent grease and dirt from soiling the boat.

*Note: Only 2 Propane bottles are stocked by AYC. You will need to purchase one if extras are not found on board. 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. Ensure gasoline and flammable materials are not near the barbecue.*

## DINGHY & OUTBOARD MOTOR



Your Saturn Inflatable DINGHY with a 6 hp four stroke engine is stored on the rear davit system at the stern of the boat. It has a capacity of about 1000 pounds (motor, equipment, and 4 people). A throwable cushion with survival kit, whistle, patch kit, and engine shut off clip, as well as life vests are found under the salon bench seat. Place the needed number of life vests and the throw cushion in the boat.

The transom plug is attached to the dingy with a leash. When the dingy is raised on the davit, the plug should be pulled out, so that any excess water that might accumulate in the dingy from rain can drain out. Install the plug in the transom drain prior to lowering the dingy to the water. You might use the manual bilge pump (located in the lazarette) to remove any excess water from the dingy.

To deploy the dinghy, ensure the DINGHY ROPE is tied off to the rail with sufficient slack to allow the boat to float freely once lowered onto the water. Then from the skybridge mast untied the hoist rope from the small cleats. Carefully and slowly unwind the hoist rope off the capstan until the rope starts to slip. Slowly let it slip to let the boat drop down to the water. The dingy will be quite stable while still connected to the davit system. Have someone climb into the dingy to unclip the dingy from the davit system.

When towing your dinghy, always keep it tight to the boat any time that you slow down or stop, assign one of your crew members as the “dinghy” person to be responsible for taking up slack. You don’t want to wrap the rope around a propeller.

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.

## 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 with pop-up ringed lids work the best for a nice, neat way to bait the ring. After 15-20 minutes, retrieve the crab line and ring quickly. Measure the crabs using the CRAB MEASURING GAUGE normally located the drawer under helm seat. Keep the male crabs of proper size (usually 6 ¼ inches across the carapace). Boil crabs for about 12 minutes to cook.

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 & Bilge Pumps

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 life jackets are stowed under the bench seat in the salon. A few should always be out and ready. Your flares and safety equipment are also located in this same location as the life vests.

The boat is equipped with an AUTOMATIC BILGE PUMP. The master switch is located to the left of the steering wheel in the main cabin. Normally, the switch will be left in the AUTO position. You may occasionally hear the pump operate due to condensation and water from the shaft log accumulating in the bilge.

An AUXILIARY HAND OPERATED BILGE PUMP is located in the lazarette at the aft of the boat. This is used to pump any water that has accumulated in the Dingy, or in emergency situations.

The ENGINE SPARES BOX (grey milk crate) is stowed in the engine compartment. This includes oil filter, raw water impeller, pump parts, injectors, and other small parts.

## **THRU-HULL LOCATIONS**

**There are five Through-Hull-Sea-Cocks installed on the boat.**

**Two are for raw water intake for each engine. They are located just in front of each engine.**

**Another is for raw water intake for the Generator. It is located on the Port side, at the forward end of the engine room.**

**The Macerator discharge is located next to the generator, this must be open before using the overboard discharge in Canadian Waters ONLY.**