

1. INTRODUCTION

Eye Sea Forever is a 2007 American Tug 41 designed for safe passage, low fuel consumption, and performance. Built for the Pacific Northwest, she is designed for comfortable cruising.

Powered by single Cummins QSC 540 diesel engine, Eye Sea Forever has a horse power rating of 540 @ 1250 RPM. She can carry 640 gallons of fuel and 210 gallons of fresh water. She has a holding tank capacity of 60 gallons. At these times of high fuel prices, Eye Sea Forever is quite a fuel efficient vessel. She is rated at 2.7 GPH @ 7.5 knots. Please do not exceed 2400 RPM.

Leaving or returning to the dock is an enjoyable experience on the Eye Sea Forever. Equipped with both bow and stern thrusters (operated at the helm or with remote control), she is extremely maneuverable and stable. From the American Tug 41 literature:

“You can throttle up to 17 knots, or enjoy the view at 8 knots, burning an economical 3 gallons of fuel per hour. The wide beam design (15’10”) with a deep keel and large rudder keep the boat tracking straight and stable in a challenging sea.”

We hope you enjoy cruising with Eye Sea Forever. Please let us know if you find anything missing or in need of improvement. While using or reviewing these notes, please feel free to mark corrections, and make suggestions and improvements. Your constructive criticism will be appreciated.

We have a ‘no shoes’ policy while on board-please respect the floor finishes. We also suggest soft sided luggage, if possible, to protect the wood work going down into the staterooms.

Thank you so much for understanding.

These notes are prepared for Quick Reference. American Tugs, Inc. did not provide an operations manual with this boat. Much of the information is taken from the component and systems manufactures’ installation/operation manuals that come with the boat, and are located on board, port side of stairwell off the pilot house as you go down to the state rooms.

The Owner’s Notes assume that the charter guest/operator is experienced and competent in the safe operation of a 30,000 pound, 41 foot power boat, and knowledgeable of boating rules and regulations. These notes do not attempt to anticipate every situation or occasion that may arise, and are not a substitute for reading the Owner’s Manuals and other informational materials which are located on the vessel, (dry locker, starboard of helm station) or for exercising reasonable care and good judgment in the handling and operation of the boat. Illegal activities, in both U.S. and Canadian waters, are prohibited. NO WARRANTY IS EXPRESSED OR IMPLIED.

General Charter information; www.sanjuanyachting.com.

Revisions:

11/11/2016: Added Word table of contents, section numbers and page numbers per SJY standard. Sect. 4 Preparing for Departure and Sect. 5 Getting Underway – added detail to engine room lights (inserted photo), coolant check, strainer and seacock, engine start procedure and corrections/detail to thruster use and breaker locations, improved photos. Sect. 7 Docking – added location of Tug Tactics document. Sect. 11 Dinghy – added detail to launching procedure and davit use, inserted photo of disconnect switch. Sect. 13 Galley – added detail and made corrections to oven/broiler operation. Section 18 Tank Management – added detail to the holding tank discharge seacock location.

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2. SAFETY – IMPORTANT – PLEASE READ FIRST!

Because we want you to have an enjoyable and safe trip, this boat is equipped with modern safety equipment, but there is no substitute for proper boat operations and accident avoidance.

Lifejackets

Eye Sea Forever has seven lifejackets on board, located as you go down to the state rooms in the locker starboard side. Before you leave the shore, please try one on and adjust one for proper fit. We recommend that you wear your lifejacket all times while on the water, and most certainly when you are outside on the deck of the vessel. A Life Sling is mounted on the upper rail. Please familiarize yourself with its usage by reading the instructions as soon as you can.

Fire Extinguishers

There are *three* **fire extinguishers** on board. One is located in the main state room, the second in the starboard step box under the pilot house settee table. The third is an automatic system in the engine room. Remember, short squirts with extinguisher are better than long blasts, and aim at the bottom of the flame, where the fire is. There are **7 lifejackets** also located in dry locker between the two staterooms.

An **Emergency fire extinguisher manual release cable/pin for the engine room** is located on the flat surface above the galley refrigerator .Do not use this release unless the automated system fails. The helm dash has an engine override (small Fireboy panel) to restart the engine after engine room fire extinguisher activation since it is equipped with an automatic engine shut-down system, located center and starboard on helm station.

First Aid

A **First Aid Kit** is located in the main cabin head dry locker above the toilet. Band-Aids, Dramamine, motion sick bracelets and an anti- bacterial ointment can be found in the kit. There is also a **needle and thread** in case you have a wardrobe emergency.

You will also find **extra flashlights** next to each bed in the staterooms. There is a flashlight located in wicker basket to your left as you enter the salon also.

Flares and an extra horn are found in the pilot house, beneath wooden step portside.

Navigation Safety

San Juan Yachting provides San Juan/Gulf Islands Paper Charts highlighted for key dangerous rocks and areas to avoid. This chart book is located in the pilot house on the navigation table, portside. Please familiarize yourself with these charts if you are cruising in this area.

The air horn is sounded using the push button at the helm station. First flip on the Horn breaker on the DC panel. If the horn hasn't been used in a while, the air compressor motor will activate to charge up the tank.

The ship's bell is located on the exterior next to the cockpit door.

3. EMERGENCY COMMUNICATIONS/CONTACTS

VHF Radio

Always have your VHF radio on and turned to Channel 16.

From the US Coast Guard Navigation Center Website;

The marine VHF is **definitely not** a CB radio. It's a serious piece of safety equipment whose use is regulated by the FCC and the U.S. Coast Guard. When used properly it provides a critical communication link to potential rescuers in an emergency and access to NOAA weather forecast, navigation alerts, and notices to mariners.

Procedure for VHF Channel 16 MAYDAY:

1. If you have an MF/HF radiotelephone tuned to 2182 kHz, send the radiotelephone alarm signal in one is available. If you have a VHF marine radio, tune it to channel 16. Unless you know you are outside VHF range of shore and ships, call on channel 16 first.
2. Distress signal "MAYDAY", spoken three times.
3. The words "This is ", spoken once.
4. Name of vessel in distress (spoken three times)
5. Repeat "MAYDAY" and name of vessel, spoken once.
6. Give position of vessel by latitude or longitude or by bearing (true or magnetic, state which you are giving) and distance to a well-known landmark such as a navigational aid or small island, or in any terms which will assist a responding station in locating the vessel in distress. Include any information on vessel movement such as course, speed, and destination.
7. Nature of distress (sinking, fire etc.).
8. Kind of assistance desired.
9. Number of persons on board

Emergency Contacts

Refer to Section 7 of the Charter Guest Reference Manual white binder located in the pilothouse.

4. PREPARING FOR DEPARTURE

1) **Covers:** If necessary, remove and stow the helm window canvas covers and the port and starboard canvas. The starboard side dry locker at the helm is a good location.

2) Engine Room Checks:

a) **Access the Engine Room:** Open the floor hatch in the salon just in front of the entry door. Flip on the engine room lights breaker located inside the engine room on the aft bulkhead electrical panel, upper right corner. See photo. The starboard side of the engine room can be accessed through another floor hatch in the salon at the foot of the pilot house stairs.



Engine Rm
Lights

b) **Check for Leaks:** Once down in the engine room, face the bow of the boat and look at the engine and bulkhead directly in front of the engine. The first thing you should do is look at the engine and check for any leaks, drips, or oil stains, and see if there is any water in the engine room.

c) **Engine Oil Level:** See photo below. Check engine oil level with white pull ring dipstick (with red paint stripe) located on portside of engine, midway between front and back of engine. Check by removing dipstick, wiping with paper towel, reinserting completely, and removing once again to check oil level on dipstick. If oil is low, add oil from blue plastic jugs, marked "Delo 400 15/40 SAE", using the red funnel located next to engine portside. Remember, **do not overfill engine oil**-it takes less than you might think. **Wipe down funnel with paper towel, leave funnel next to engine and oil fill cap is securely in place.**



- d) **Check Coolant Level:** See photo above. Access via the floor hatch in the salon at the foot of the pilot house stairs.
- e) **Fuel and Water Tank Levels:** Both port and starboard fuel tanks and port and starboard fresh water tanks have clear sight tube tank level gauges running up the tanks. It is a good idea to check the tank levels on these sight tubes as a double check against the tank system monitor located at the helm station portside. When checking sight tubes, open the valves at the top and the bottom of the sight tube to get an accurate reading. Be sure to close valves in case the plastic sight tubes may be dislodged. Visual checks are important. There are no manifolds for the fresh water or fuel tanks. The water and fuel are drawn directly from the tanks. The starboard tank will draw down faster when the generator is running. The generator draws from the starboard tank and the excess fuel or return line runs back into the port tank.
- f) **Fuel Filters:** Mounted on the aft bulkhead starboard side. See photo below.



Check RAYCOR Fuel filters for water or contamination. *Few things you do are as important to your safety on the water as having uncontaminated fuel going to the engine!* The RAYCOR filters are located rear engine room firewall, portside. Make sure only one filter is in use at a time- the yellow selector valve lever should be directed to one filter or the other in a straight horizontal position. The short pointed red end of the yellow RAYCOR selector lever indicates which filter is collecting contaminants; the other RAYCOR filter is the "back-up" when the active filter is dirty or being serviced. Make sure both filters are free of contaminants or water, look through the glass at the fuel in the bottom of each filter. You don't want to see

contaminants or a separation of water and fuel in the bottom of glass bowl. (Water is heavier than diesel fuel and will collect at bottom of glass bowl if there is water in the fuel). IF YOU SEE CONTAMINANTS OR WATER SEPERATION, YOU WANT TO REMOVE THEM WITHOUT REMOVING THE FUEL IN THE GLASS BOWL. **Cleaning RAYCOR Filters;** to do so, turn short pointed red end of yellow RAYCOR selector level AWAY from the filter with contaminants and toward the other filter that will be actively filtering while you are servicing the contaminated filter. With a collection bucket underneath, open the brass petcock butterfly valve at the bottom of the metal bowl, which is directly underneath the glass RAYCOR bowl. This will evacuate JUST the water or contaminants. Then quickly retighten the petcock brass valve so as not to drain all the fuel out of the RAYCOR glass bowl. YOU WANT TO ONLY DRAIN OUT CONTAMINANTS AND/OR WATER, not all of the fuel in the clear glass bowl.

- g) **Raw Water Strainer:** Mounted on the forward bulkhead starboard side. See photo. Check the cooling water strainer by shining flashlight through the clear plastic filter housing. If the filter is clogged with debris, such as eel grass, seaweed, etc, close large seawater through-hull valve (marked with blue paint) located at engine room floor, just below the cooling water strainer. This valve lever is on the housing labeled "main engine seawater through-hole valve". Pull valve lever down to horizontal position to close. To clean strainer, unscrew clear plastic cap on top of the cooling water intake filter. This plastic cap is hand tight, so can be removed by hand. Next, lift out metal filter basket, place in a bucket, and take metal filter basket back to the cockpit and remove the debris, by hand and/or rinsing. Re-insert metal filter basket back into filter housing and replace clear plastic cap by hand tightening it in place. RE-OPEN COOLING WATER INTAKE VALVE (MARKED WITH BLUE STRIPE) BACK UP TO VERTICAL POSITION. It is very important to remember to open this valve when you are finished, or the engine will have no water to cool it, and will overheat.



- h) **Turn Off Engine Room Lights**
- 3) **Shore Power Cord:** On the dock at the shore power pedestal, flip OFF the shore power breaker then disconnect the cord. Have a second crew member start retracting the cord using the Cablemaster. The toggle switch is located in the cockpit on the port side of the sink cabinet. Both crew members need to carefully watch and guide the cord so it doesn't kink or fall in the water.
- 4) **DC Panel Breakers:** Check that the main DC disconnect breaker is ON then flip on breakers for instruments, VHF radio, horn, lights, etc as needed ("Yellow Dot" breakers). All "Green Dot" breakers should be ON.

- 5) **Close Hatches:** Close and secure all hatches and port holes – salon, staterooms and heads.
- 6) **Check Around Boat:** Fenders and fender use are important. With a boat the size of Eye Sea Forever, docking and departing are the two areas that require protection of the hull and rear swim deck. Remember to stow the fenders and mooring lines in the bow storage locker (next to the anchor) while underway.

5. GETTING UNDERWAY

1) Start Engine (refer to photos below):

- a) Throttle/Shift lever in neutral (vertical).
- b) Turn ignition key to START (ignition located forward of throttle/shift lever, below the starboard window, next to macerator key switch). Note: Cummins engine company states “do not crank engine for more than 30 seconds, wait 2 minutes to allow the starter motor to cool down before restart attempt.”
- c) The 2 red Neutral lights on the throttle/shifter base will glow when the shifter is set to neutral.
- d) For cold weather warm up, the transmission can be disengaged and the RPM increased by pressing the WARM SYNC button on the throttle/shifter base. The red light will turn on. Increase the RPM slightly to smooth out the engine vibrations. When the engine temperature reaches 100 degrees the throttle can be decreased back to idle. Press the Warm Sync button again to re-engage the transmission.
- e) Check that cooling water is coming out the exhaust. If not, shut down the engine and check the raw water seacock is open and the strainer is not clogged.



- 2) **Thrusters:** Turn on the thrusters by pressing the 2 “ON” buttons simultaneously. The amber light between the buttons will come on. Note that the controller will turn off automatically after 5 minutes of non-use so check periodically that the amber light is lit. The thrusters will overheat and shut down after 3 minutes of continuous running so only use them for 5-10 second bursts at a time. If they do shut down, after a 5-10 minute cool down period, they will reset

unless the circuit breakers also tripped. Following are the breaker locations and reset directions.

- **Bow Thruster Circuit Breaker:** Located under the floor in the forward (guest) stateroom. Open the floor hatch. The breaker is immediately under the floor in the forward right corner of the hatch opening. Look for the large red knob. Reset the breaker by pulling the knob out toward you.
 - **Stern Thruster Circuit Breaker:** Located in the starboard cockpit floor locker. Open the floor hatch. The breaker is immediately under the floor in the forward left corner of the hatch opening. Look for the large red knob. Reset the breaker by pulling the knob out toward you.
- 3) **Prop Walk:** When in Reverse, the boat pulls to Starboard due to the prop rotation. You can use this to your advantage when navigating narrow marina fairways and tight docking situations.
 - 4) **Maneuvering:** See Tug Tactics for more information on how an American Tug maneuvers (See black binder located in the book cubby behind the nav table in the pilot house.
 - 5) **Stopping the Engine:** Shifter to neutral. Turn ignition key to OFF.

6. UNDERWAY

1) Engine

Keep RPM less than 1000 for first 5 minutes. Then keep RPM less than 1400 until the coolant temperature reaches 140 degrees. **After warmed up, please do not exceed 2400 RPM.**

Monitor the engine functions at the helm station SmartCraft electronic monitor as follows.

- Volts should read between 13 and 14 at normal cruising.
- Water temperature should be between 160 and 190 degrees.
- Oil pressure should read between 30 and 80 psi depending on rpm.
- Vacume gauge for RAYCOR fuel filters should read below 7 while cruising.

2) Charts

Charts are provided for your use as well as the Raymarine C-120 chartplotter. The paper charts and chart book are annotated by San Juan Yachting showing dangerous rocks and shallow areas in red. Please avoid these areas. The draft of the boat is 4'10"- one of the most common ways to get in trouble is rounding a point or island by cutting in too close and hitting the rocks. There is a spare prop on board, but we prefer if it didn't need to use it.

3) Electronics:

- a) Raymarine C-120 chartplotter.
- b) Raymarine 4 Kw open array radar, equipped with AIS sender/receiver.
- c) Raymarine autopilot with remote. Raymarine ST60 wind indicator.
- d) Raymarine Cummins SmartCraft engine data Display.
- e) Skymate System TracVision satellite system

- 4) **Keep a Lookout:** Watch for crab and shrimp pot floats in open water as lines tangling in the prop can be very damaging and a quick way to your cruising vacation short.

- 5) **Communications:** Eye Sea Forever is equipped with two ICOM IC-M604 VHF radios with mics, both located overhead at the helm station. Always monitor channel 16 on one radio for safety reasons, and the other radio for communications on other channels. Eye Sea Forever also has a **Cell Phone Booster** to enhance your communications while cruising the San Juans.

7. RETURNING TO DOCK

a) **Fenders**

Tied securely on the docking side of the boat, at the appropriate level for the dock.

b) **Maneuvering**

See Tug Tactics for more information on how an American Tug maneuvers (See black binder located in the book cubby behind the nav table in the pilot house.

c) **Engine Shut Down**

After the boat is secured with the mooring lines, shifter to neutral. Turn ignition key to OFF. Please do not allow the engine to idle for extended periods as this will carbon up the cylinders and injectors.

d) **Electronics**

Turn off electronics breakers on the DC panel. Please replace screen covers.

8. CLOSING THE BOAT

- Close all windows and hatches.
- DC Panel Breakers:
 - Turn OFF all breakers marked orange/yellow dots.
 - Leave green dot marked breakers ON.
- AC Panel Breakers:
 - Leave yellow and green dot breakers ON, with the exception of the gang circuit breaker marked "generator" which will be in OFF position because you are hooked up to shore power.
- Lock pilot house doors. Lock cockpit door as you leave. Return key to the SJY office staff.
- On the dock, check position of all fenders and insure all mooring lines are secure.

9. ANCHORING

There are two anchors on Eye Sea Forever. The primary anchor has a foot control for up/down as shown below. The windlass main power switch is located under the guest stateroom berth, just left of washer/dryer. See photo. Be careful not to let the anchor down only a couple of feet and stop-this will cause the anchor to swing into the hull. Since it is 6' down to the water, pick the spot you want to anchor and let the anchor out slow and STEADY. The chain is marked at 50ft increments. See Tug Tactics for an excellent section on anchoring and tying stern lines, if needed.

Note that if you are anchoring out for a day or so, and you haven't run the engine, you need to

periodically start up the generator to maintain a full battery charge. When the battery capacity is at or below 60%, this is essential since the power will fall off rapidly once it reaches 60% and you may not be able to start the boat. See American Tugs owners manual written by Tomco Marine, the boat manufacturer for more details on energy consumption/renewal, and detailed electrical systems.



10. BARBEQUE

Located on back cockpit rail. Eye Sea Forever has a propane grill on the cockpit rail. A six pound safety approved propane tank is located the under-sink cockpit cabinet. It has an 8 ft rubber hose attached with a barbeque gas control unit attached. The control unit and hose can be threaded through under-sink cockpit access porthole on portside of cabinet and attached to the barbeque, when in use, leaving the propane tank in the cabinet. When finished barbequing please thread hose and control unit back through porthole and store it under the sink. Gas grill does not need to be preheated, overheating will damage the stainless steel. Please empty and clean grease tray after usage.

Lighting instructions: Open lid during lighting. Depress knob and rotate counter-clockwise to the HIGH flame position. Push igniter. Visually confirm ignition through match light hole. Turn knob to adjust flame. If grill does not light, repeat process. Keep a water bottle (located under cockpit sink) handy to put out flare-ups. Brush, grill spatula, and silicon glove found in locker under sink in cockpit.

You will find a Himalayan Salt Plate in the galley, which can be heated, directly on the grill, slowly bringing up to temp (start low and then increase heat) for about 30 minutes, don't add salt to your meat. Grill your dinner on the salt plate and then just rinse salt plate off. Do Not Submerge in Water! Just brush off and let cool. Amazing way to grill.

11. CRABBING/SHRIMPING

Eye Sea Forever is equipped to help you enjoy the bounty of the sea in the Pacific Northwest. Crab

pots and shrimp pots are located on the upper deck for your enjoyment. Crab pot/shrimp pot electric powered davit is available for help bringing your sea treasures on board.

12. DINGHY

Eye Sea Forever is equipped with an inflatable hard bottom dinghy with a 25hp gasoline engine. It is stored on the topside deck, along with davit crane for lowering dinghy into water and raising it into storage position. You will need the dinghy motor key, which is usually left in the ignition of the dinghy (a spare can be found in the wicker basket on the port side shelf of the salon) and the davit controller, also located in the wicker basket on the port side shelf of the salon.

Launching

Be careful when using the davit to avoid swinging the dinghy into a person or the boat. Please wear a lifejacket and don't let kids operate the dinghy unsupervised, it travels fast.

- The davit disconnect switch is normally left on. It is located in the engine room, aft bulkhead electrical panel. See photo at right.
- Put in the dinghy stern drain plug.
- You will need two people to raise the davit arm into its operating position.
- Plug the davit controller into the starboard side of the davit at the base of the arm.
- Lift the davit arm slightly and pull the pin on the underside of the arm at the base.
- Lift the arm up to the second highest position (4th hole up) marked with black and put the pin back in.
- Have one person guide the dinghy holding the painter as the other person lowers the dinghy into the water with the davit.
- Hold a fender between the dinghy and the boat to prevent contact.
- Secure the painter and unhook the davit.
- Check fuel level prior to departure.
- Secure the davit arm by attaching the cable to the top deck eye hook on the port side of the top deck.



Retrieving

It will take two people to put the dinghy out of the water and back in place. Secure dinghy with tie down ropes and put cover on. Lower davit with pin out to lowest position and attach davit hook to eye on top port side eye hook. Secure davit arm to rail with rope.

13. ENTERTAINMENT SYSTEMS (TV/DVD/Stereo/MP3 ready/Xbox)

Convert the settee and enjoy a movie or play the Xbox. Eye Sea Forever's salon is designed to be entertaining friendly or just a great place to relax with the kid's if rain keeps you indoors. All remotes are stored directly under the television. A laminated instruction sheet is located in the cabinet next to the TV. If the Satellite system needs to be reset, there is a button on the back of the satellite receiver that needs to be turned off for 30 seconds and then turned back on.

TV Usage: The K/V/H breaker must be on at the main panel in the Pilot House. Also, the Satellite breaker must be flipped on at same panel. Turn the satellite on first with the Direct T.V remote. Dry cupboard door starboard side where receiver is located must be open. When you turn the satellite on with the remote you should hear a little beep and also the satellite outside on top the pilot house can be heard moving. Turn the T.V on with the T.V remote. You must have the T.V on channel 4 and input T.V. Sometimes, if the system has not been used for a couple weeks, it will be necessary to turn the receiver off at the back and wait a minute or so. Again, the receiver is in the lower starboard dry cupboard in the salon. There is a white plug in to the unit that you can unplug which will also re-set the receiver. Sometimes the unit may need a boost, you can call Direct T.V at 1-800-531-5000 and they can give the unit a "boost" to get it back into function mode. Receiver # 070503719.

To watch DVDs the T.V must be on input 1. Insert the DVD into the Fahrenheit DVD player. The Clarion player must read Aux Source and then use the Clarion remote for volume.

14. GALLEY

Take a few minutes to familiarize yourself with the cupboards and drawers for location of various cooking and serving utensils/glass and dinner ware.

The tap water is filtered as it leaves the fresh water holding tank so it can be used for drinking.

Note: Always use cutting board on top of sink (additional wood cutting board in lower dry locker in galley) for a cutting surface and hot pads for any hot pans. The varnish on the table is susceptible to heat damage. We ask that you use the provided placemats and coasters to protect the table.

Icemaker

Turn toggle switch below icemaker door to turn on. Make sure arm is down to make ice, and up to stop ice from being made, but to keep ice frozen.

Spare Freezer

Located on the starboard side of the salon. DC powered, turn on only when in use.

Microwave

Quick heat-ups can be done using inverter power. Bigger jobs require shore power or generator.

Coffee Maker/Coffee grinder

Coffee maker is stowed in dry locker in salon starboard side. Electric water warmer/electric grinder, and french press are located in dry locker behind electric oven.

Electric Stove Top, Oven and Broiler

Needs 50 amp shore power to run, or generator if you are out.

Flip on the STOVE breaker on the AC panel in the pilothouse. Back in the galley at the stove, there are red lights on the right side of the front panel to indicate when the stove top or oven/broiler elements are on. To turn on the oven element, turn the oven control knob clockwise and set the desired temperature. To turn on the broiler, turn control knob all the way clockwise to the stop (almost 360deg). You will feel a slight click which activates the broiler element. Keep the door open about 3", or to last notch on the handle. When the broiler is being used, you will not be able to use the oven element. For best results, preheat oven to 300 degrees for a bit and then switch to broiler. Do not use abrasive cleaners to clean galley range, cleaning agents will remove lettering from front of door, just use warm water to wipe down. Do not use abrasive pads.

There is a fan switch above the stove.

15. GENERATOR

The generator is used to provide adequate power for such things as heat, stove, microwave, and washer/dryer when shore power is not available. **Note:** 50 amp shore power is needed to operate the stove/washer/or dryer. In order to switch from shore power to generator power, the master switch on helm station control panel, needs to be switched from shore to generator power.

Before starting generator, check oil, coolant, belt and raw water strainer. The strainer is located in the aft lazarette, port side. It is just aft of the forward bulkhead. Make sure the seacock on the through hull is open. To start generator; follow instructions on the generator control panel located aft side of sink cabinet. As control panel specifies, make sure preheat button is held down for a few seconds before the start button is engaged and is continued to be held down for several seconds while the generator is started. With the generator running, you can run SOME of the heat and/or appliances as you would with shore power, but not all at once, or you will overload the generator power supply capacity. If you do run too much of a power supply demand, the main breaker on the generator will kick off. If this occurs, choose which power demand sources you need to run, shut the others off that you don't need, and reset generator breaker, located on aft side of generator cabinet located in the lazarette. To access this breaker switch, the aft cover of the generator needs to be removed, and the breaker switch to ON position. Be CAREFUL not to overload when you are operating under generator only.

For example, run only two of the four air condition/heat units, or one of the three heater units, at any one time, while under generator power. If you are using the stove, you may only be able to use one air conditioner unit or one heating unit, along with the stove. The stove is a significant power demand.

16. HEATING

Eye Sea Forever has 3 different heating systems: engine heat, electric heat and the *Marine Air Systems Elite* air conditioning/heating System.

Engine Heat System. This is run off the heat from the engine. The breaker on the main panel in the pilot house needs to be turned on. Then the breaker labeled "heat" on the aft bulkhead of the engine room just below the engine room lights breaker needs to be turned on. This energizes the system which is mounted on the portside forward bulkhead in the engine room. The hot circulating water from the engine goes to this bulkhead mounted system and provides heat to the pilot house and main salon. This system only has one setting and also provides the heat for the defroster. It should be noted that this system is not very efficient. There is a small fan located in the portside step box below the pilot house table that is very helpful when it comes to defogging the windshield on damp cold days.

Electric Heat. Requires either shore power or the generator to be running. There are three electric heaters. One in the main salon on the port side, one in the master stateroom next to the closet, and one in the forward stateroom in the head. The thermostat controls the on/off for the unit. The breaker for the heaters on the AC panel in the pilot house needs to be turned on for these heaters to operate.

Marine Air Systems Elite Air Conditioning/Heating System. The outlets are throughout the boat controlled by thermostats in the salon, the pilot house, and in the master and forward staterooms. This system requires the generator be running or the 50amp shore power be connected. Switches on the AC Breaker Panel in the pilot house allow operation of the system. Prior to operating the system, insure the AC Pump thru-hull valve is in the open position. This is located in the machinery space below the deck in the forward stateroom. The valve is on the port side and in the aft section of the bilge space. With either shore power or the generator running, first the AC PUMP breaker must be energized on the AC breaker panel. Then you can turn on the breaker for the zones you want to heat or cool. The following is a list of the breakers that correspond to each designated zone:

- AC-1 Pilot House
- AC-2 Master Suite
- AC-3 Salon
- AC-4 Forward Stateroom

The bulkhead mounted thermostats turn on each zone and also have control buttons for heat (sunshine symbol), cool (snowflake symbol) and fan speed (fan symbol) and temperature up or down. They can be set to Automatic which will regulate the temperature to the level set on the thermostat causing the air conditioning to come on when the temperature gets too warm, or the heat to come on when the temperature drops below the designated setting.

17. SLEEPING

There are two staterooms on board, each with a queen bed. The second stateroom there is an additional single berth. This makes for easy accommodations for three couples or a family.

The settee in the salon converts into a comfortable double-size bed. To set up the bed, move the table away from the settee. Pull out the face of the settee like a large drawer. Remove the cushions from underneath. The boards are labeled as to the direction and where they go. It is best to start from the aft and work forward when putting the boards in.

18. SPARES

Eye Sea Forever **spare parts**, replacement bulbs, and filters, impellers, and fuses are located in corner storage compartment under settee cushion starboard aft. Additionally, engine spare parts, and oil are stored in engine room. There is a tool set mounted on the batteries directly down the ladder in engine room. Please notify us if you use any of the spare parts so we can be sure they are back in place and ready for our next guest.

19. TANK MANAGEMENT (Fuel, Water, Wastewater)

(Currently the Pilot House Gauges are inaccurate and we ask that you use sight tubes for waste water, fresh water and fuel, located in the engine room.)

Wastewater

Eye Sea Forever has a macerator pump controlled on the Starboard side at the helm station. Make sure the seacock for the overboard discharge is open. It is located in starboard lazette in the aft cockpit. The seacock is just aft of the forward bulkhead toward the starboard side. Follow USCG rules for when you can use this in US waters. The macerator pump switch on the upper electrical panel, on portside of the helm station must be turned on before the macerator pump can be started. It comes on and performs a fifteen minute cycle.

Freshwater

On the portside of the helm station as shown in this helm picture, is the "tank systems monitor". It has an American Tug logo on it. You can toggle through the fuel, water, and waste water tanks to check levels of each. You can and should double check diesel tank levels and fresh water tank levels by going below into engine room and looking at the four level monitoring tubes. Be sure to monitor the wastewater tank level closely to avoid overfills.

Refilling Diesel/Freshwater Tanks- Diesel and Freshwater fill caps are very close together on both starboard and portside of boat. Please be cognizant of which cap you have open, to avoid putting diesel in your freshwater, or freshwater in your diesel. The diesel fill caps have a red dot on them, the freshwater fill caps have a blue dot on them. There is brown dot on the wastewater cap.

20. WASHER/DRYER

Located in guest state room. **Needs 50 amp shore power** to run or you must run the generator if you are away from shore. The washer/dryer does consume a fairly heavy energy load as does the unit in your home.

21. WATERMAKER

(Separate manual in blue binder, dry locker under helm station, starboard side.)

We strongly recommend that the watermaker NOT be used on local charters in the San Juan and Gulf Islands where there are numerous freshwater stations throughout the islands.

However, on long charters, i.e. Alaska or Desolation Sound, the watermaker can be quite useful. There are remote operation controls on the electrical panel portside of the helm station. In most cases the helm station remote operation will be sufficient, except if you need to clear lines or replace filters. (See instructions below).

It is best to make water in small batches daily whenever you start the generator, particularly when you know you will not be docking and replenishing your water in the next day or two. **THE WATER MAKER NEEDS 50 AMP SHORE POWER OR THE GENERATOR TO OPERATE.** It will not operate under low power conditions. I will walk you through generator operation of the watermaker, which is what you will most likely be doing- out on anchor, somewhere calm.

1. Start generator, wait 1-2 minutes for generator to warm up. Watch for light to turn yellow to green.
2. Flip on generator breaker at the electrical panel on portside of helm station.
3. Flip on watermaker breaker on electrical panel.