

# Notes from the Owners of AmyAnn

Welcome to



AmyAnn is a Helmsman 38E and will celebrate her fifth birthday this year. She was commissioned in July of 2018 and we loved her from the start! She is named after our moms who were good friends. Amy (Karl's mom) loved seagulls, and Ann (Shelley's mom) was a musician; we designed the graphic to honor them both.



Karl was raised in Dayton, Washington and Shelley in Troy, Montana; we now live in Othello. We have loved the ocean *forever* and look forward to any time we can be near it.

It is our joy to share AmyAnn with you. We want your time on her to be the very best. If you have a suggestion for an improvement, please let us know. We would be happy to hear from you.

We hope the sea feeds your soul and your memories are happy ones. We have a gift for you. Please check the bottom shelf in the center cupboard where you will find a wooden spoon with AmyAnn's name on it. Take one and "stir up" some memories!

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# 1. Specifications and Vessel Information

## Specifications

Year: 2018  
LOA: 40'-10"  
LOD: 37'-10"  
Beam: 13'-11"

Draft: 4'-0"  
Displacement: 30,000 lbs. (dry)

Fuel: 2 tanks, 200 gallons each  
Water: 1 tank 145 Gallons. Hot water: 17 Gallons  
Holding tank (black water): 45 Gallons

Refrigerator Main Compartment: 19"w x 19"d 28" h  
Freezer Compartment: 19"w x 19"d x 11" h

Master Stateroom Berth: 6'-6" long, 5'-0" wide at shoulders, 4'-0" at feet

Dinette Table Conversion: 6'-3" long, 4'-2" wide  
Pilothouse Single Berth Conversion: 6'-6" long, 1'-11" wide

## Vessel Information

**U.S. Customs Re-Entry Decal** – Located next to the aft entry door, starboard side.

**Permanent Vessel No. 1288512** – 3" high numbers located in engine room on starboard stringer under floor board below the stairs.

**AIS MMSI No. 338322334** – Programmed into the VHF radio to transmit AmyAnn's position and vessel data (heading, speed, vessel name, MMSI number). Refer to Section 9, Electronics/Instruments, for detailed description of AIS.

**Coast Guard Boarding Document** – Refer to the Charter Guest Reference Manual (white binder), Section 5 Documentation. Explains what to expect if you are boarded by the Coast Guard and where to find the information/equipment they may ask to see as part of their safety inspection.

## 2. Nuances

There are a few things about AmyAnn that are not 'typical'. These are the things that may require special attention or where it may be best to deviate from customary operating procedures. We have listed some here because we believe they will help you plan your charter.

### Switching active throttles/shifters

Press the ACTIVE button **TWICE**.

When switching from the pilothouse to the flybridge or vice versa during engine operation, first put the active shifter in neutral then move to the new station and press the ACTIVE button **two times**. The red light on the new active throttle/shifter will illuminate solid red.



### Autopilot disclaimer page

Scroll to the bottom of the page and select ACCEPT.

When the autopilot is first turned on it display a disclaimer page. Scroll to the bottom of the page using the rotary knob then press the knob to accept.

### Aft entry door

Always latch the aft entry door closed when underway or during rolling sea conditions.

The door is large and very heavy. If left open or unlatched when underway it will slide uncontrollably and cause damage or injury.

### Battery disconnect switches and ACR switches on electrical panel

The battery disconnect switches and ACR (automatic charging relay) switches are on the DC panel and are small rocker switches with illumination rather than the conventional large rotary dial switches.

The switches allow manual or automatic control of the battery power. With only one exception, the switches should remain in the ON or AUTO position. The exception is that in the unlikely event that the engine start battery is depleted, the engine ACR switch (ENG ACR) should be switched to ON instead of the normal AUTO position. This will allow the engine to start off another fully charged battery.



## Fuel system and fuel management

AmyAnn has two fuel tanks that are not cross-connected. The fuel system is designed for the engine to draw fuel from one tank at a time and return excess fuel to that same tank. There are fuel selector valves in the engine room that will need to be switched on a periodic basis, based on fuel usage, to keep the vessel in reasonable balance (port to starboard). We have found that after 8-10 hours of operation at cruising speeds, it is better to switch the selectors to the opposite tank. When deemed necessary, switching the tank selector valves in the morning during your daily engine room checks is a good time to do so.

See the Fuel Tanks and System section of this document for complete instructions and photos.

## Y-valve on holding tank discharge

The discharge hose exiting the holding tank goes to a Y-valve which directs the waste to either the deck pump out hose or the macerator (over board discharge) hose. The Y-valve must be checked for correct positioning each time prior to pumping out or macerating. See the Heads and Holding Tank section of this document for complete instructions and photos.

## Master Stateroom overhead hatch hinge locks

The hinge locks (black plastic knobs – see photo on right) operate differently from typical hatches. To unlock, pull the knob out and rotate until knob is aligned with the hinge bar. To lock, pull the knob out and rotate until knob is 90 degrees to the hinge bar. Photo on right shows the port side hinge lock in the locked position.



## Master Stateroom and Pilot House overhead hatch screen/blind latches

The plastic latches on the overhead hatch screens/blinds are delicate and will break easily if forced. Please carefully press upwards on the inside edge to unlatch and carefully slide open or closed. Thank you!

## Opening Side Window Latches

Caution must be used when opening windows in the pilothouse and salon to ensure that the cord for the blinds does not get damaged. Place your hand behind the cord when unlatching and opening. See photo at right.



### Floor hatches

The salon and pilothouse floor hatches have tight seals. You may need to put weight on the hatches to open or close the dogs.

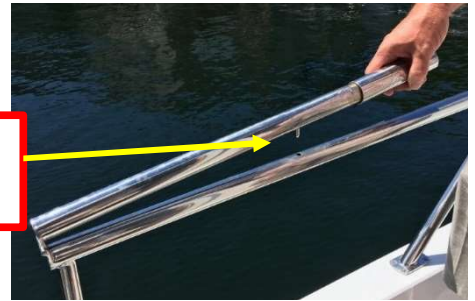
### Deck Brush and Fish Net and Pole

The brush and net use the same pole. They are stowed in the cockpit floor locker.

### Exterior side rail gates

When opening the exterior railing gate just aft of the pilothouse doors, the alignment pin must be inserted in to the hole in the fixed rail.

Alignment pin and hole.



### Stairs to stateroom

CAUTION: At the top of the stairs from the pilothouse to the stateroom the landing is slightly recessed into the pilothouse. To keep from accidentally stepping down onto the first step, pull open the centerline chart table and lock in place.

Centerline chart table pulled open and locked.



The following items are wired to the **ACCESSORY** breaker on the DC panel:

- Navigation lights
- Anchor light
- Fuel and water gauges
- Trident propane solenoid switch

## 3. Emergency/Safety Equipment

Emergency/Safety Equipment Locations: You are not likely to need these, but must know their location.

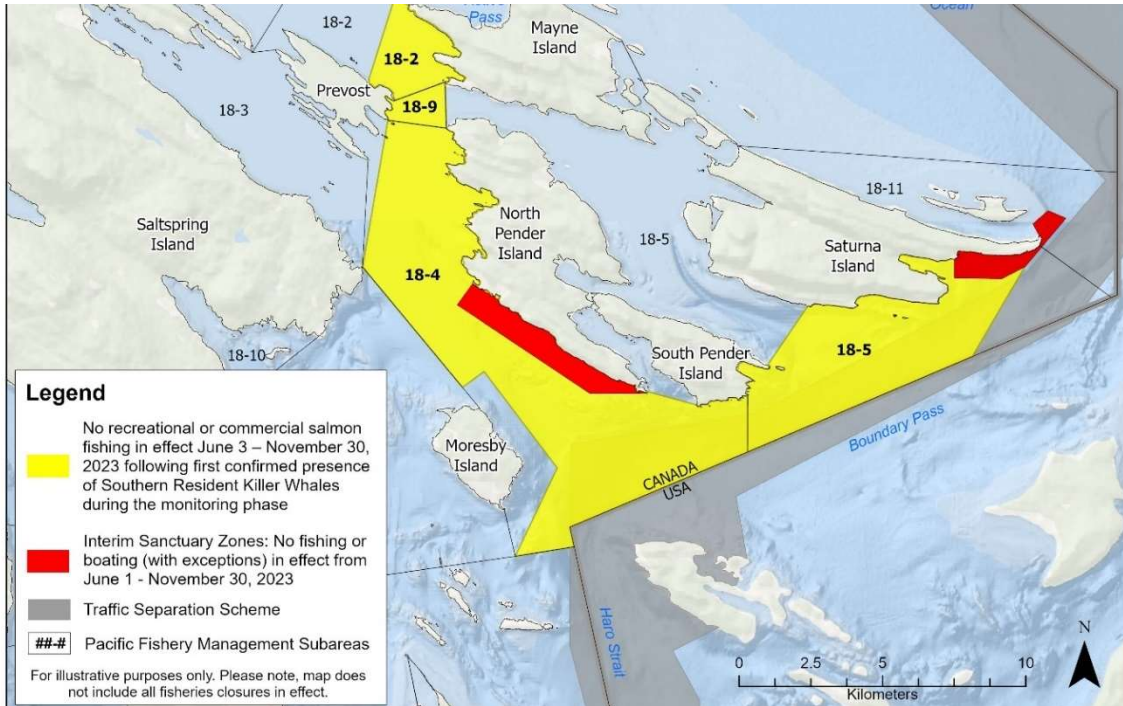
- Air horn, handheld – Cockpit floor locker, in lime green mesh bag with flares and StaPlug.

- Bilge Pumps – 3 bilge pumps. Lowest is midship, just forward of the engine. Pump switches located on dashboard above helm. Should be kept on AUTO unless manual override needed.
- Bilge Pump – Emergency/Portable. In 5-gallon bucket, cockpit lazarette.
- Boat hook – on starboard flybridge railing abeam the salon window.
- Carbon monoxide detector – Located on the port side of the microwave cabinet.
- Emergency tiller – Cockpit locker
- Fire extinguishers – Salon, pilothouse, and under steps to master stateroom
- First aid kit – Pilothouse, port settee, in drawer below seat
- First aid kit, more extensive – Under bed in master stateroom (refer to Inventory, section 2)
- Flares – Cockpit locker in lime green mesh bag with air horn, emergency beacon float, and StaPlug
- Flashlights – Pilothouse, far port side, small drawer at waist level and on bulkhead in engine room
- Lifesling – Flybridge deck level on port rail near the dinghy davit. The davit can be used to hoist a person on board if necessary.
- PFDs – Large locker under salon floor (8 vests, 2 type V)
- Tapered wood plugs for through-hulls (seacocks) – Tied to each seacock – see Through-hull Diagram
- Tapered foam plug (StaPlug) - Cockpit locker in lime green mesh bag with air horn and flares
- Tool kit – Engine room
- Spares – refer to “Spares Inventory List”.
- Windlass Clutch Tighten/Release Tool – Anchor locker, looks like a winch handle (blue arm/black handle), on a black lanyard attached to the washdown faucet.

## 4. Being Whale Wise

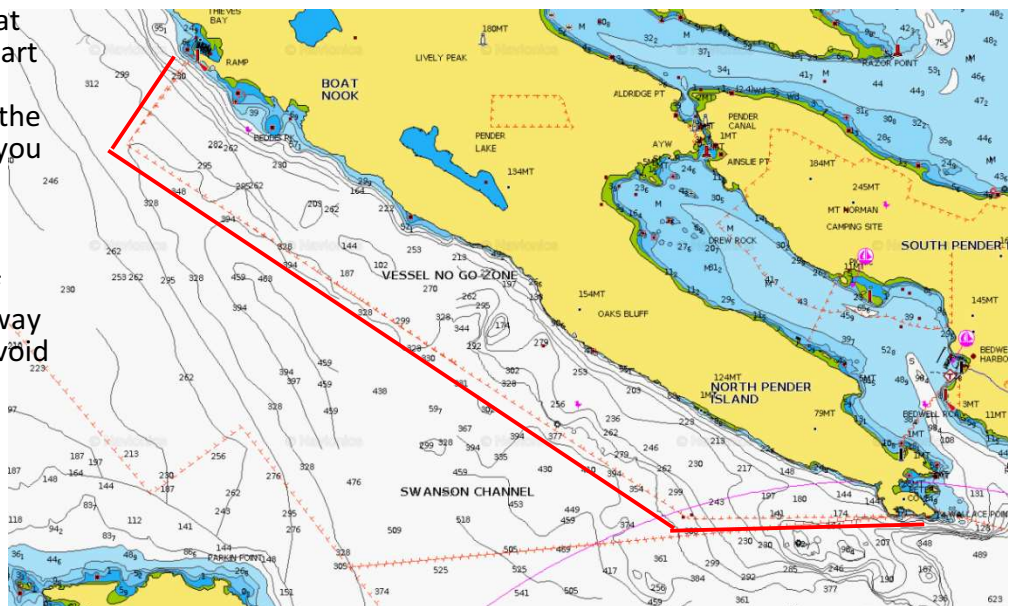
Our local Killer Whales are a wonderful part of the local family. But they are having a difficult time surviving due to declining salmon runs. These whales use echo location to find and catch their food. Therefore, noise pollution from boats and ships make it harder for them to thrive. In an effort to decrease human impact both the Canadian and US governments have implemented rules. We provided you a summary of these rules in the packet you receive when you arrived and there is more information in section 10 of the white reference book onboard AmyAnn. In general, stay at least 400 yds. away from the whales. Sometimes they come to you, if this happens shutdown the engine and turn off the instruments (assuming this is safe to do). They can hear the pings of the depth sounder – this is why we have you turn off the instruments.

In Canada they have gone a step further by creating some zones where boats are not allowed. This further improves the environment for the whales. The red areas in the diagram below show these zones.



And here is an example of what they look like on AmyAnn's chart plotter(s). The red lines have been added to help point out the dashed lines, which are what you will see on the plotter.

Note this is just to the west of Bedwell Harbour, so on your way in or out of there be sure to avoid this area.



## 5. Anchors and Windlass

### QUICK NOTES

- Windlass raise/lower foot switches are located on the port side of the windlass.
- To raise/lower the anchor, please only use the windlass foot switches at the bow and do not use the controller at the helm. We've found that we need to be positioned at the bow in order to properly see



the anchor when it's out of the water so we can stop or slow the windlass and prevent damage to the hull from a swinging anchor or damage to the windlass by not stopping when the anchor is fully raised.

- Windlass breaker is located in the bow locker with the secondary anchor. The breaker switch should be left ON. If an overcurrent occurs and the breaker trips, reset the breaker by pushing down on the yellow button in the center of the yellow switch handle.
- Windlass clutch tighten/release tool is located in the anchor locker, looks like a winch handle (blue arm/black handle), on a black lanyard attached to the washdown faucet.
- Primary Anchor: 45# Bruce, 200' chain, 200' nylon rope. Length markings are as follows:  
CHAIN: 2' of yellow line in chain every 25 feet; two lines at 100'  
ROPE: tag markers every 25 feet
- Please use the anchor bridle while setting the anchor and to hold the anchor overnight. Bridle is stored in the bow locker with the secondary anchor.
- There is a raw water washdown in the bow locker on the starboard side of the windlass. Turn on the WASHDOWN breaker on the DC panel. Please turn off the breaker when done. The seacock is normally left open. Refer to the Through Hull diagram in Section 3 of the Charter Guest Binder for location of the seacock.
- Turn on the Anchor light before dusk.
- Secondary Anchor: 13 lb. aluminum Guardian, 30' chain, 150' nylon rope. Stored in the anchor locker at the bow.

The scope normally used in the islands is 4 to 1, definitely not 7 to 1 (unless conditions call for it, i.e. sustained winds over 25 knots). Most of the anchorages are well protected and popular, so you will likely have someone anchored nearby. Most coves are 20'- 40' deep so expect to pay out about 100'-180' of rode. After you have paid out the suitable amount of rode, 1-2 minutes of idle reverse sets the anchor. Also, the tides can change water depth up to 12' in the San Juans so be aware of where you are in the cycle when choosing an anchorage and deciding how much rode to put out.

## 6. Barbecue

The Weber propane barbecue is mounted on the stern rail. The photo on the left shows the BBQ ready for storage and the right photo is ready for cooking with the drip tray inserted under the bottom of the BBQ.

The BBQ is plumbed to a dedicated propane tank located in the cockpit floor locker, port side of the steering gear. Please turn OFF the hand valve on the tank after each use.

After use, please let the BBQ cool before folding up the side tables.



## 7. Batteries & Charger/Inverter

### QUICK NOTES (Reference Maretron Manual under helm seat)

- Please keep batteries above 12.2v at all times. 12.8v is fully charged (with all loads turned OFF – including fridge and when not charging).
- When charging, battery voltage will read above 13v.
- Ensure batteries are charging when connected to shore power – see details below in Battery Charging section.
- When underway the engine is automatically charging all batteries.
- At anchor, there is no generator on board but the house battery bank is ample enough to handle normal DC loads including lights, fridge, diesel cabin heater and entertainment systems.
- Caution is needed when inverting and using 120v power. Use only low draw (wattage) items like phone charging or computers. High wattage items like microwave oven, hair dryer, toaster and coffee maker will kill the batteries.

### BATTERIES

AmyAnn has the following battery groups on board:

- Engine start
- House and Davit
- Windlass and Bow thruster
- Davit and Stern thruster
- All batteries are charged automatically when connected to shore power with BLUE DOT breakers ON or while the engine is running.

### Battery disconnect switches and ACR switches

The battery disconnect switches and ACR (automatic charging relay) switches are located on the DC panel and are small rocker switches with illumination rather than the conventional large rotary dial switches.

The switches allow manual or automatic control of the battery power. **With only one exception, the switches should remain in the ON or AUTO position.** The exception is that in the unlikely event that the engine start battery is depleted, the engine ACR switch (ENG ACR) should be switched to ON instead of the normal AUTO position. This will allow the engine to start off another fully charged battery.

When the batteries are charging, you will periodically hear clicking sounds from the ACR switches as the system automatically shunts charging to different batteries.



### BATTERY CHARGER/INVERTER

AmyAnn has been equipped with a state-of-the-art Magnum Energy power management system which includes a charger and an inverter. The Magnum control panel is shown in the photo on right. It is located with the AC/DC panels on the inboard face of the helm seat.



## Charging – Shore Power

- Connect the 30Amp shore power cord to the **SHORE 1** receptacle on the starboard transom (Shore 2 is not used). The 50-foot orange cord is the main cord attached to the dock power pedestal. A 50-foot yellow extension, a 25-foot yellow extension, and 2 different 50A-to-30A adapter pig tails are located in the cockpit floor locker if needed.
- Flip ON the SHORE 1 AC breaker in the galley.
- Flip ON the SHORE 1, BATTERY CHARGER and INVERTER breakers on the AC panel.
- Normally the Magnum panel will automatically start charging (after a 20 second startup) and indicate Bulk, Float or Absorb charging. If not, press the CHG button on the Magnum panel.

## Charging – Engine

- All batteries are automatically being charged when the engine is running.

## Inverter

- If 120V power is needed for low wattage devices when shore power is not available, the Inverter can be turned ON.
- The inverter powers the 120V outlets including the MICROWAVE OVEN.
- At the Magnum control panel, press the INVERTER button.
- On the AC panel, flip ON the INVERTER breaker at the upper right corner.
- On the AC panel, flip ON the FWD and AFT CABIN OUTLETS breakers.
- Please turn the inverter OFF when not in use.
- Only run high wattage appliances when on shore power or with engine running.
- When on shore power, do not run 2 high wattage units at the same time (microwave, hot water heater, toaster, coffee maker, microwave); the breaker may trip if you do.

## 8. Berths

AmyAnn sleeps five: two in the forward stateroom, two in dinette table berth conversion and one in the pilothouse port side seat conversion. The berth conversion filler cushions and memory foam pads are stored in the large locker under the salon floor inside grey canvas protective covers.

### Converting the Salon Table to Berth

- Lower the salon table by loosening the friction screws in each leg (look for the large grey plastic knobs).
- Push the table down to the stops then tighten the friction screws.
- Pull out the table leaf support slats on each end of the table and fold down the two leaves.
- Place the filler cushion on the table with the zipper facing up so it doesn't scratch the table.



## 9. Bilge Pumps

### QUICK NOTES

- 3 bilge pumps. Lowest is midship, just forward of the engine.

- Pump switches located on dashboard above helm. Should be kept on AUTO unless manual override needed.
- All pumps are wired directly to the batteries. Can't be accidentally turned off.
- Forward pump located under the center floor hatch in the stateroom.
- Middle pump located in engine room forward of engine.
- Aft pump located in cockpit locker in the forward end.

## 10. Dinghy, Outboard, Chart Plotter and Davit

AmyAnn is equipped with a hard-bottom dinghy and a 20 hp Tohatsu outboard motor. The dinghy is roomy (easily holds 4 adults) and the outboard is easy to operate.

As owners, we would very much appreciate your special care when beaching the dinghy. Beaches in the San Juan Islands are seldom gentle, sandy beaches; most often they are rocky and covered by barnacles equipped with extra sharp rubber cutters. Here's what works best: launch a person off the dinghy bow as you approach shore; then offload everyone over the bow. Lift the dinghy above barnacle height and deposit it gently on the beach. We also secure the painter under a rock or to a log – a rising tide can leave you high, dry and dinghy less! Or, you can use the anchor and anchor buddy to keep the dinghy off shore.



### QUICK NOTES

- Davit controller, ignition key and lanyard for dead-man switch are stored in the pilothouse, in the small drawer on the port side of the nav table.
- Power to the davit motor is always ON. There is no switch on the DC panel. Run engine while using.
- Please keep the dinghy off rocks when beaching or shore combing. There is an anchor and anchor buddy in the locker under the dinghy seat that can be used to moor the dinghy off the beach.
- Tohatsu outboard is four-stroke so do not add oil to the gasoline mixture
- Foot pump inflator is located in the bow locker of the dinghy.
- Chart plotter and depth finder: Refer to notes (this book).



### DETAILS

The launch and retrieval is best done with two people: one on the upper deck and one in the cockpit.

- a) Get davit control and key to dinghy from nav station drawer.
- b) Attach bridle to the four rings inside the dinghy, making sure the ropes are between the seat and the seat back and between the pedestal and the middle seat cushion (push the seat back down part way so it won't hit the davit).
- c) Make sure the outboard is fully raised and turned to the far right.
- d) Detach the dinghy from the boat by detaching the two straps on the rear and the one strap on the front of the dinghy (store the front one so it does not fall overboard) get both yellow lines inside the dinghy free so you can guide the dinghy as you lower.
- e) Detach the bungee cord on the end of the davit, pull the small lynch pin, pull the large pin, and then lift the davit to the upper hole and replace the two pins.
- f) Swing the davit counterclock wise around until it's above the bridle ring.
- g) Attach the winch control on the davit pedestal, detach the clip from the davit, lower the rope and attach the clip to the bridle ring.
- h) Slowly raise the dinghy while watching the outboard motor and the seat bracket to prevent them from striking the davit arm.
- i) As you raise the dinghy begin pushing it toward the aft of the boat, still watching the outboard and seat bracket and continue raising until the dinghy keel clears the rail. (You may have to rock the dinghy a bit.
- j) As soon as the keel is clear begin to lower the rope as you continue to push the dinghy toward the aft and port side while still watching the outboard and seat bracket.
- k) As soon as the entire dinghy is clear of the rail continue to swing and lower until it lands in the water on the port side parallel to the boat using the yellow lines to guide it as it goes.
- l) Detach the hook and pull the davit line up by hand and tie off on the upper deck (no reason to the run the line into the davit because you will just have to lower it when you return.
- m) Detach the davit control and stow until you are ready to retrieve the dinghy.



## Retrieval

- a) Have dinghy at ready position with its bow facing to the aft of the boat on the port side. Raise the outboard and have it turned to the far right.
- b) Assure the bridle is attached to the four rings inside the dinghy, making sure the ropes are between the seat and the seat back and between the pedestal and the middle seat cushion (push the seat back down part way so it doesn't hit the davit). Attach the dinghy control.

- c) Lower the line and hook by hand from above and attach to the bridle ring and hand up the yellow lines to the upper deck person.
- d) Raise the dinghy slowly and swing it toward the aft and as it gets close to the top watch the outboard and seat bracket so it doesn't hit the davit arm.
- e) As you get near to the top make small increases in height and swing movements as you get the keel over the rail.
- f) As soon as the keel has cleared you can start to make small decreases in height and swing while watching motor and seat bracket.
- g) Before you set it into the saddles make sure they are in position and you pull the dinghy slightly toward the port side so the aft of the dinghy hull lands on the rear saddles.
- h) Detach the clip from the ring and raise line up to the end of the davit keeping pressure on the line as you get close to the top hook the clip into the stainless steel guard on the end to the davit. As you raise line to the very end don't overdo it or you will snap the line and then that's the end of the dinghy launching.
- i) Detach the davit control and swing the davit clockwise around the port rail.
- j) Pull the linch pin and the big pin and lower the davit to the lower hole; replace the pins.
- k) Attach the bungee cord to the end of the davit.
- l) Attach the front and two rear tie down straps and cinch them up.
- m) Stow the yellow dinghy lines inside the dinghy.
- n) Stow the key and davit control in the nav station drawer.

**Anchor Buddy:**

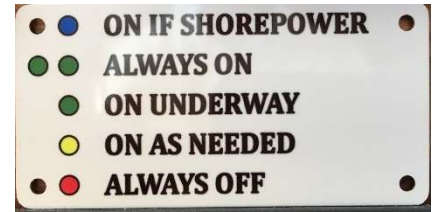
For temporary use only. Use only in calm conditions.

- Fasten Anchor Buddy to anchor.
- Drop anchor approximately 30 feet from shore.
- Proceed to shore; Anchor Buddy stretches.
- Step off; tie bow line to shore and pay out line.
- Anchor Buddy pulls your boat out.
- Retrieve boat by pulling on bow line.
- Step aboard and let Anchor Buddy pull you out.

# 11. Electrical

## QUICK NOTES

- The AC and DC panel breakers use the color dot convention shown on right:
- Main AC breakers are located in galley on the cabinet face. Use Shore 1. Shore 2 and Transfer breakers are not used.
- Main DC breaker located on DC panel in pilothouse.
- The Outlets and Microwave breakers on the lower right section of the AC panel are powered by either Shore Power or the Inverter.



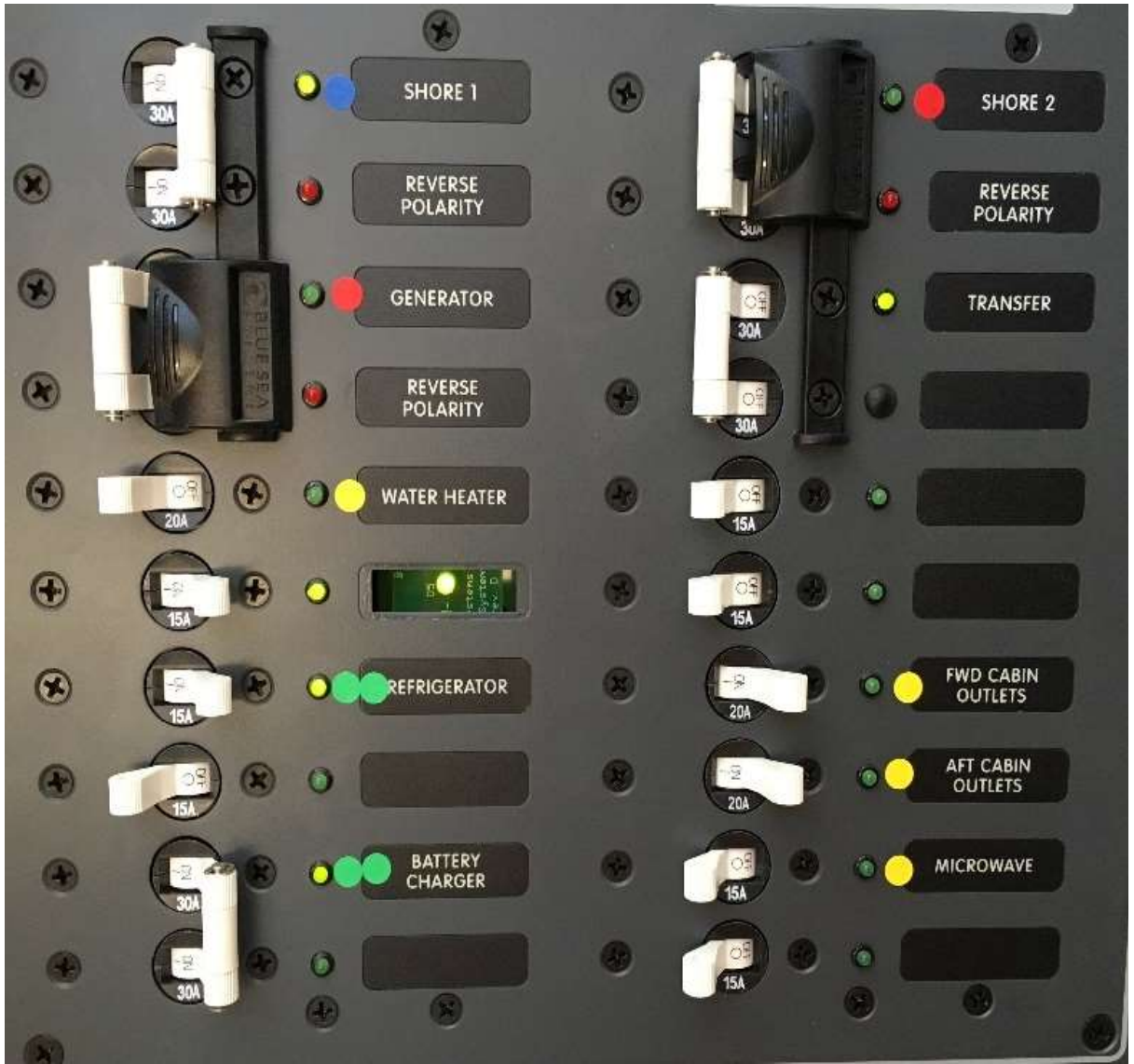
## DC Panel

NOTE: The ACCESSORY breaker is wired to the following items:

- Navigation lights
- Anchor light
- Fuel and water gauges
- Trident propane solenoid switch



AC Panel





## 12. Electronics/Instruments

Chart Plotter (including Autopilot, AIS and Radar:

### HOME SCREEN



### CHART SCREEN



### QUICK NOTES

- *AmyAnn* is equipped with Simrad chartplotters in the pilothouse, flybridge and the dinghy. The pilothouse and flybridge plotters are powered by the ELECTRONICS breaker on the DC electrical panel in the pilothouse. Note that for full functionality, the AUTOPILOT and VHF breakers also need to be flipped on.

- After power is applied, the system will return to the last formats / settings selected. The most popular selections for screen formats are accessed by selecting Home, then Favorites, then choose the desired app for each plotter.
- Please refrain from changing settings beyond the typical functions like chart orientation, radar overlay, AIS overlay and range.
- Commonly used chart plotter selections are detailed below. For a more complete orientation of how to operate and get the most value from our Simrad chartplotters, please refer to the Simrad Operator Manual located in the pilothouse inside the small cabinet at the base of the helm forward face for detailed operating instructions.
- A route that you have created with Navionics on your own device can be downloaded to the Simrad chartplotter on board. See detailed instructions below.

## DETAILS

### Commonly Used Chart Plotter Selections:

#### Finding the Navigational Chart:

- Go to the Home screen – press the Home icon button (matrix of squares – upper right corner of the plotter). Refer to the top HOME SCREEN photo above.
- Touch the Chart icon – upper left corner of the display. Refer to the bottom chart plotter photo above.

#### Zooming in and out:

- With two fingers touching the screen, pinch or expand to zoom out or in. Or touch the “-“ and “+” icons at the bottom center of the screen.

#### Returning the screen to the vessel's current location: ie. Stop Panning or Clear Cursor.

- Touch CLEAR CURSOR at the bottom right corner of the screen.

#### Clearing Pre-existing Waypoints, Routes and Tracks:

- Go to the Home screen – press the Home icon button (matrix of squares – upper right corner of the plotter). Refer to the top HOME SCREEN photo above.
- Touch Waypoints (top left corner of screen).
- Then select Waypoints, Routes or Tracks, then Delete all (at bottom of screen).

#### Chart Orientation: subject to your preference, we recommend Heading Up.

- With the Chart currently showing on the screen, touch the Menu icon (upper right corner of screen – 3 horizontal bars).
- Touch More Options, then Orientation, then select your orientation preference.

#### Display Brightness:

- Quick press then release of the Power button (right side of unit, lower left button).
- Touch Brightness, then with a finger drag the slider bar to the desired brightness.

#### Course over Ground (COG) Vector/Line: Ensure the COG line is always ON by default.

- Go to the Home screen – press the Home icon button (matrix of squares – upper right corner of the plotter). Refer to the top HOME SCREEN photo above.
- Touch the Settings icon (small icon upper left corner of screen – looks like a gear wheel).
- Touch Chart, then Extension Lines (in right hand column), then Course over Ground.

**Displaying and using a Split Screen:** Ex. Chart zoomed-in on one side and zoomed-out on the other, Chart on one side and Radar on the other.

- Go to the Home screen – press the Home icon button (matrix of squares – upper right corner of the plotter). Refer to the top HOME SCREEN photo above.
- From the column of symbols on the right side of the screen, select the desired split screen configuration.
- The current active screen has a red border around it. Change active screens by touching the screen you want active.

#### **Radar Overlay:**

- With the Chart currently showing on the screen, touch the Menu icon (upper right corner of screen – 3 horizontal bars).
- Touch Overlay, then Radar. If you want to control the radar, then touch Radar Options, then Transmit or Standby or Power Off.
- **IMPORTANT REMINDER:** You are required to use your radar at all times while underway in low visibility conditions.

#### **A.I.S. (Automatic Identification System)**

##### **QUICK NOTES**

- AmyAnn transmits her position and data via an AIS signal as well as receives AIS signals from other vessels equipped with AIS transmitters (Commercial vessels are required to have AIS, recreational vessels are optional).
- AIS information supplements marine radar, which continues to be the primary method of collision avoidance for water transport.
- AIS requires each vessel to have a 9 digit MMSI (Maritime Mobile Service Identity) number to transmit position and data. AmyAnn's MMSI number is 338322334.

##### **DETAILS**

AIS vessels appear on the chart plotter screen as triangles (must have AIS overlay turned ON – see above Chart Plotter section for how-to). The triangle points in the direction that the vessel is moving and if you touch the screen over the triangle the system will give you additional information (such as name, size, speed, bearing, etc.) about the vessel. The system also transmits this same type of information about AmyAnn to other vessels with AIS.

AIS is an added safety feature which allows large commercial vessels to easily see you and your direction/speed. They may try to contact you via VHF channel 16 to verify your course intent. In addition AIS allows San Juan Sailing/Yachting to provide faster assistance in case of unplanned maintenance issues as well

as alert San Juan Sailing/Yachting of *Vessel name's* return approach. Vessels with AIS can be viewed in real-time through mobile device apps and websites like [www.marinetraffic.com](http://www.marinetraffic.com) that will reveal vessel name, course, speed, track, and other information.

## Autopilot

### QUICK NOTES

- When the autopilot is first turned on it will display a disclaimer page. Scroll to the bottom of the page using the rotary knob then press the knob to accept.
- Rudder angle indicator is at the bottom of the screen.
- To engage the autopilot, press "AUTO" one time.
- To disengage the autopilot, press "STBY".
- IMPORTANT REMINDER: You are required to keep a lookout at all times while the autopilot is engaged.

## VHF Radios

### QUICK NOTES

- Simrad VHF base unit and wireless handheld. Take the wireless unit when driving from the flybridge.
- Turn on base unit first then wireless.
- Wireless unit charges automatically when clipped into either black plastic inductive charging brackets located at the pilothouse and flybridge helms. The wireless unit will turn off automatically after 90 seconds of no use.
- The User Manual is located in the Pilothouse on the chart table or inside the cabinet below the helm seat on the forward face.
- The small number "10" next to some of the frequency numbers is the new "alpha" channels. See Details below.
- We recommend that you monitor Channel 16 during your cruise. It is reserved for emergencies and boat-to-boat initial contact. After contact, move to a working channel (68, 69, 72, 74 or 78). We listen to weather channels 1-10 (whichever gives the best reception, normally 4 in the San Juan Islands) before we sail in the morning and prior to anchoring for the evening. Listen for the reports identified as "Northern Inland Waters". San Juan Sailing monitors channel 80 during office hours (closed Sundays).



## DETAILS

Listed below are instructions on how to use some common features:

- **Turning On and Off the radios** – the pilot house base unit is set to go on when the VHF breaker on the DC panel is flipped on. The wireless radio must be turned on manually. Long press the Power button (upper right) to turn it on.
- **Adjusting Volume and Squelch** – On the Base unit, use the Vol/Sql rotary knob on the left side. Press the knob in to switch between Vol and Squelch. Rotate the knob to adjust level. On the handset mic, only volume can be adjusted.  
Wireless unit: On the right side, press the VOL-SQL button to switch. Press the “+,-” buttons to adjust level.
- **Changing Channels** – On the base unit, turn the large knob on the upper-left corner or press the up/down arrows on the handset mic. On the wireless radio, press the up/down arrows on the front face.
- **Adjusting Backlight** – Short press power button, additional short presses to make large adjustments (1, 3, 6, 10), to make fine adjustments turn the channel knob.
- **AmyAnn’s VHF radios have adopted the latest channel numbering system** – many of the familiar 2-digit channel numbers like 79 & 80 have changed to 4-digits with the first two digits being a prefix #10 displayed in a smaller font size, (eg. 1079 & 1080 – see photo on right). Also note, the “10” series numbers start at the end of the 2-digit sequence. Refer to the new number format listing print which has been added to the Charter Guest Reference Manual binder on board, section 7, VHF Procedures & Weather Reporting.
- **To quickly get to channel 16** – On the Base unit and wireless, press the red-numbered 16/9 button. Holding it in for 2 seconds will take you to channel 9.
- **Accessing the weather channels** – On the Base unit and wireless, pressing the “sun/cloud” icon button will toggle between weather channels and normal channels.
- **How to Scan Channels 16/9 and one additional selected channel**
  - a) Go to channel to include in scan.
  - b) Long press the DSC/Menu button (upper left corner of base unit).
  - c) Select “Watch” from list and press the channel knob.
  - d) Select “Dual Watch” from list and press the channel knob.
- **Silencing a DSC Alarm** – When another boat (or the Coast Guard) press the DSC button on a radio it sounds an alarm on all boats in the area. To silence this alarm, press any key on the radio.
- **Changing from High to Low transmit power** – On the Base unit and wireless, press the HI/LO button in the bottom (located on the handset mic on the Base unit).
- **Changing between Canada, International & U.S. channel banks** – On the Base unit, long press the DSC/MENU button. Using the large rotary knob on the upper left corner, select RADIO SETUP, then UIC, then select USA, INTERNATIONAL, or CANADA. The radios should be left set to the USA channel bank.



## 13. Engine and Operating Under Power

### QUICK NOTES

- Main engine room access is through large floor hatch in pilothouse.
- Secondary access through small hatch in guest head in salon. For safety reasons, please leave this hatch closed at all times when underway or not in use.
- There is an engine room blower switch on the DC panel. The blower is not needed for engine start/operation. But is useful for cooling down the engine room after operation if you need to spend time in the engine room.
- Our Maintenance Pros will check oil and coolant levels, belt tension and debris in raw water strainer weekly. Charter Guest is NOT required to perform these checks unless engine trouble alarm sounds. If on multiple week charter, then please check engine vitals weekly.
- Raw water strainer is located in the engine room, forward end of engine under floorboard.
- Left hand prop. Prop walk in reverse to is to starboard but only slight due to long deep keel.
- Economy cruise is 7.5 kts @ 1550 RPM using approximately 2-3 gph.
- Fast cruise is 10 kts @ 2420 RPM using approximately 11 gph.

### Prep for Engine Start

- Check fuel tank levels on gauges located on overhead dashboard above the helm.
- On the gauges, to help us keep track of which tank is currently supplying fuel to the engine, we move the hair scrunchie to the active tank gauge. See **Fuel Tanks and System** section for instructions on how to set the fuel tank selector valves to draw from the port or starboard tank.
- Check around outside of vessel for loose lines in water.
- Close the salon door to keep engine exhaust out.



### Starting

- Gearshift in neutral
- Turn ignition key to ON
- Wait for the Vessel View display to boot up. When the vessel status in the lower left of the screen reads OK then start engine by pressing and immediately releasing the Start button below the key. See photo on right.
- After the engine starts, check for cooling water flowing out the tell tail stream. Go out the starboard pilothouse door and look at the side of the hull just aft of the door. See photo on right.
- The WARM SYNC on the shifter base turns on automatically after start. This feature disengages the transmission for cold start fast idle. Press button to engage transmission for normal operation. Red light turns off.



- j. Switching active throttles/shifters from pilothouse to flybridge:
  - Put the active shifter in neutral.
  - Move to the new station.
  - Press the ACTIVE button on the controller base two times.
  - The red light on the new active throttle/shifter will illuminate solid red. You now have throttle/shift control at that station.
- k. Please do not allow the engine to idle for extended periods as this will gunk up the cylinders. After starting, it is okay to depart from the dock or anchor at idle or low RPM (below 1,200 – 1,300). After 5 minutes underway at low RPM the engine is warmed up sufficiently to increase the load to cruising RPM if desired.
- l. Normal operating temperature range on the Vessel View engine temperature gauge is 165-175 deg.

### Shut Down

- a. Gear shift in neutral.
- b. Press and hold the STOP button below the engine key until the engine shuts down.
- c. Turn engine key to OFF.

## 14. Entertainment Systems

Flip ON the Stereo breaker on the DC panel.

**TV Screens** – There are two TV screens: one in the salon and one in the forward stateroom. Only one screen at a time can be used. The switch for changing active screens is located in the cabinet above the microwave. See photo on right.

**DVDs** – Check that the source switch (Located in the cabinet above the microwave. See photo on right.) is switched to #1 DVDs. Open the face of the top Fusion player (the latch is on top, pivot face down), insert disc in slot. To eject disc, open face, press eject button on lower left corner. When you insert a DVD, it should automatically begin to play the DVD. Turn the TV on and it should begin to show the DVD.

**Media (smartphone) Player** – Open the face of the lower Fusion player (the latch is on top, pivot face down), connect smartphone with USB cable (not provided).

**Bluetooth** – To connect your phone to the Fusion via Bluetooth:

- a) On the Fusion, press the Menu button (upper left corner).
- b) Rotate the large dial to select “Discoverable” on the screen and press the center to check the box.
- c) On your phone, look for “MS-AV755” and select/pair.
- d) You should be all set to enjoy your music. Please be mindful of the volume level and open windows – other boats in the peaceful anchorage don’t want to hear your music!
- e) The Fusion Operating Manual is located on shelf in front of the Fusion units (above the microwave). Included are directions for connecting your smartphone via Bluetooth.



## 15. Fuel Tanks and System

### QUICK NOTES

- AmyAnn has two fuel tanks that are not cross-connected. The fuel system is designed for the engine to draw fuel from one tank at a time and return excess fuel to that same tank. There are fuel selector valves in the engine room that will need to be switched on a periodic basis, based on fuel usage, to keep the vessel in reasonable balance (port to starboard). We have found that after 8-10 hours of operation at cruising speeds, it is better to switch the selectors to the opposite tank. When deemed necessary, switching the tank selector valves in the morning during your daily engine room checks is a good time to do so. See photos and details below for switching tanks.
- The fuel tanks hold 200 gallons each.
- The fuel gauges are located in the pilothouse on the dashboard above the helm. Turn on the ACCESSORIES breaker on the DC panel to activate the gauges.
- Refuel at one third full level.
- Filler deck caps are on each side of the cockpit on the combing at the salon bulkhead. The tank vents are located on the inside of the cockpit below the fills.
- The fuel tanks do not have sight tubes. The tanks are designed to be leak-proof.
- **Re-fueling**: One person fueling and one person watching the fuel gauges. When gauge reads just below full, slow down fuel fill. Continue filling, listen carefully and stop filling when pitch rises. Repeat for other tank. Fuel gauges will settle over time and show about 7/8 full or less.

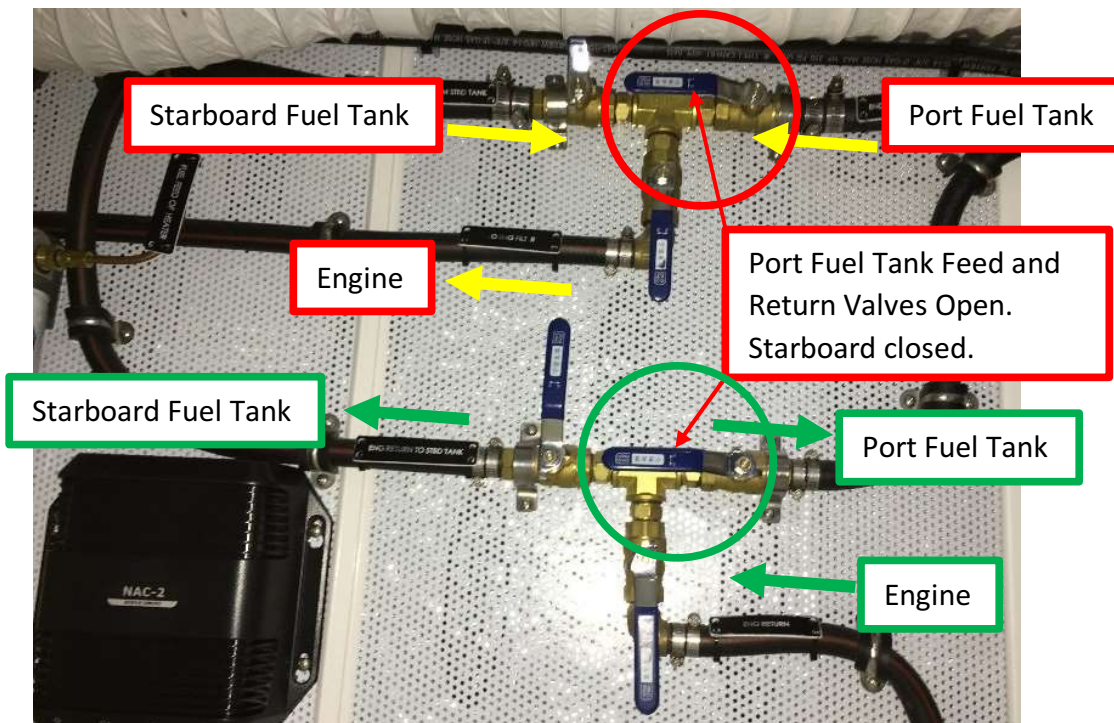
### Switching Fuel Tanks

**The engine must be shut down prior to changing any of the fuel valves.** The selector valves are located in the engine room on the aft bulkhead, starboard side of engine. Open the closed valves first, then close the open valves. See photo examples below of valve positions.

### Port Fuel Tank Selected

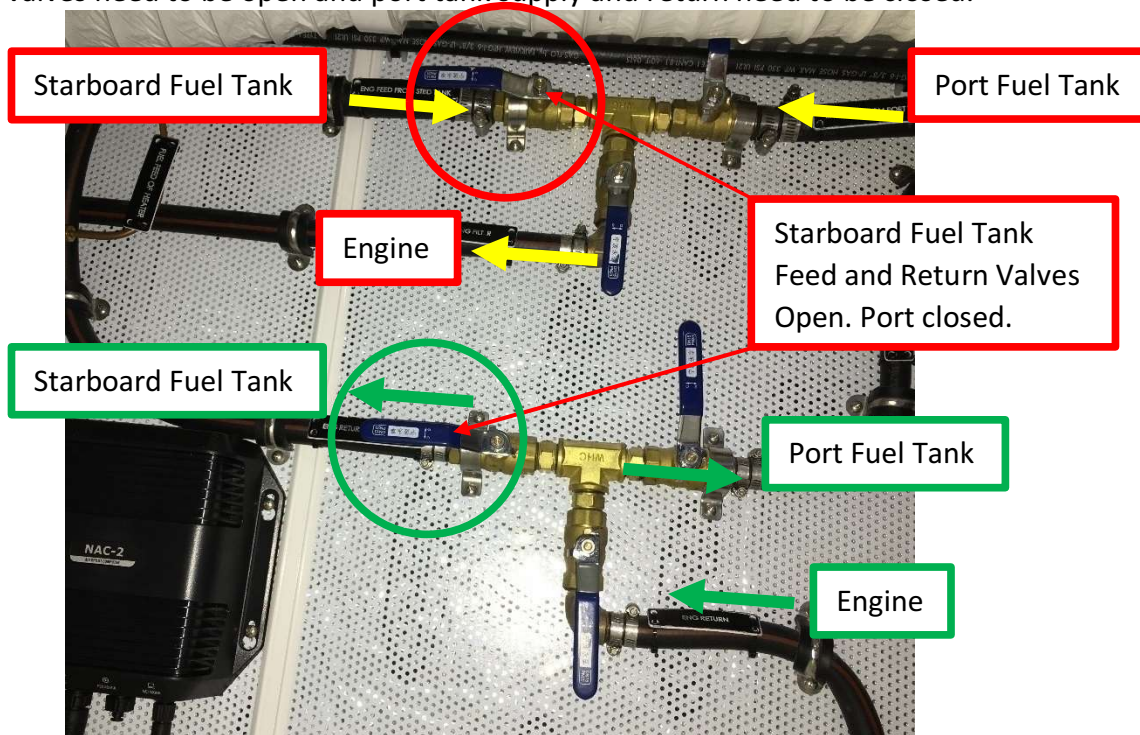
Photo below shows the port fuel tank open and starboard closed. The **supply line flow direction is shown with yellow arrows** and **return with green arrows**. Both the supply (upper-red circle) and return (lower-green circle) valves need to be open and starboard tank supply and return need to be closed.





### Starboard Fuel Tank Selected

Photo below shows the starboard fuel tank open and port closed. The supply line flow direction is shown with yellow arrows and return with green arrows. Both the supply (upper-red circle) and return (lower-green circle) valves need to be open and port tank supply and return need to be closed.



## Fuel Filters

- Located in the engine room, port side of the engine.
- Use one filter at a time leaving the second as a clean spare.
- Short, pointed end on the selector valve yellow handle points to the filter in use.
- The vacuum gauge between the filters indicates filter condition. When dial pointing in green zone, filter okay. When pointing in yellow, time to switch filters.
- During your check-in please report if you switched filters.



## 16. Fresh Water Washdown in Cockpit

- Water Pressure breaker on the DC panel in the pilothouse needs to be ON.

## 17. Heads and Holding Tank

### QUICK NOTES

- Only what has been eaten goes in the toilet.
- Both toilets are electric with fresh water flushing.
- Both toilets flush into one holding tank.
- The holding tank level gauge is located in the forward head. Switch the ON/OFF switch to ON to read level.
- The holding tank capacity is 45 gallons. Please empty BEFORE it reads full.
- Emptying the holding tank – see detailed instructions below

### DETAILS

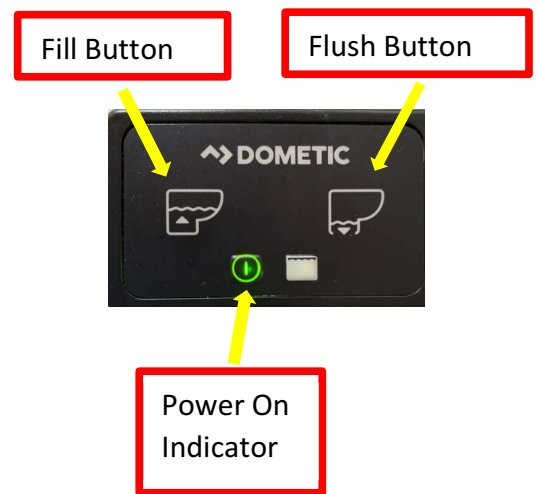
Please do not put anything in the toilet that has not been eaten. Experienced sailors deposit toilet paper in a wastebasket in Ziploc baggies, not down the toilet because paper tends to clog the hoses.

San Juan Sailing staff will discuss holding tanks and pump outs on your arrival. Our one plea is this: please don't over fill the holding tank as leaking sewage is most unpleasant! Thank you.

Please note that in U.S. waters it is illegal to discharge holding tanks overboard. While in Canadian waters outside of bays and harbors overboard discharge is allowed.

### Operating the Head

The head has two modes, high and low water use. It is best to leave the head in the low water use mode – this reduces the usage of fresh water and flow to the holding tank. When in this mode pressing the flush button will empty the bowl and use about half a gal. of water. But it will not add water to the bowl after the flush. If water is desired it can manually be added using the fill button. If water is being added to the bowl after a flush the system is in high water use mode.



To change modes, press the flush button for 5 seconds. This is a toggle operation – each time this is done the mode switches from one mode to the other. The Power On light will blink after the 5 seconds to indicate the mode has been changed.

**Empty holding tank when arrow indicates “High” (not full)**

**Emptying the Holding Tank**

There are two ways to empty the holding tank:

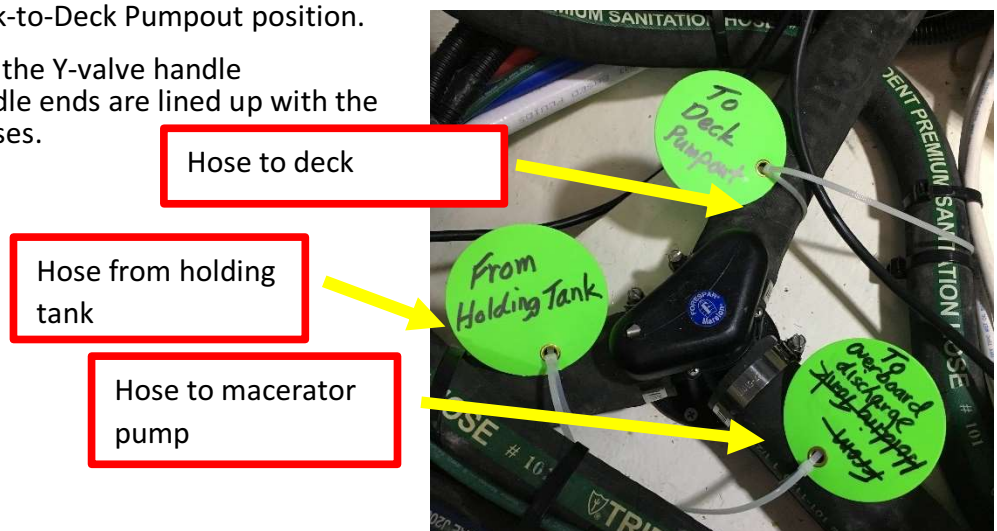
1. Pump out at a Shore Facility.
2. Where legal, discharge overboard using the macerator pump.



First, position the holding tank Y-valve for the method of choice as follows:

The holding tank Y-valve is located in the engine room, at the forward end, just starboard of center under the floor board. The handle ends point to the hoses that are currently open for flow. Photo at right shows the Y-valve in its normal Holding Tank-to-Deck Pumpout position.

To discharge overboard, rotate the Y-valve handle counterclockwise until the handle ends are lined up with the holding tank and macerator hoses.



**Pumpout at Shore Facility or Pumpout Barge**

- Position the Y-valve handle ends to line up with the holding tank hose and deck pumpout hose.
- Open the deck cap and pump out.
- Deck cap key located in pilothouse in small cabinet on port side of nav table.

### Discharging the Holding Tank Overboard

- Shut down the engine so you can hear the macerator pump running when you switch it on.
- Position the Y-valve the handle ends to line up with the holding tank hose and the overboard discharge (macerator) hose.
- Open the discharge hose (macerator) seacock located at the aft end of the engine room on the starboard side under the floorboard.
- Turn on the macerator pump by flipping on the MACERATOR breaker on the DC panel.
- You'll hear the pump motor pitch vary as it grinds and discharges the waste. When the tank is empty, the motor pitch will quickly rise as the pump sucks air. Usually takes 2-3mins at most (less of course if the tank isn't full).
- Turn off the macerator breaker.
- Close the discharge seacock.
- Return Y-valve to pump out position.

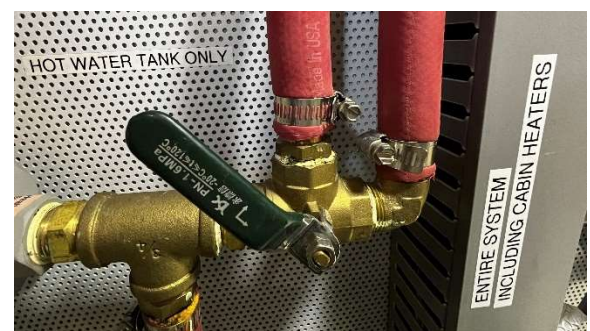
## 18. Head Sets

### QUICK NOTES

1. Put charged batteries in headsets. Batteries will operate six hours when fully charged.
2. Turn on the MAIN headset
3. Turn on the remote headset
4. Flashing LEDs change to solid blue to indicate headsets are connected.

## 19. Heater (Cabin)

- Webasto Diesel fired furnace or Engine Heat with hydronic/forced air system.
- **Cabin Heat/Hot Water Tank Selector Valve** – In the engine room on the port side near the aft end against the hull, there is a black-handled valve that controls the flow of the hydronic system. To get **cabin heat**, the valve handle must be turned clockwise to the handle stop to get flow to the cabin heaters (pointed downward to the right at a 45deg angle - see top photo on right). This position will heat the hot water tank too, but not as efficiently as when the handle is turned back 180deg counter clockwise to the handle stop. This is the Hot Water Only position (pointed upward to the left - see lower photo on right). If you don't need cabin heat on, then this position will give you hotter water quicker. **Also**



**note**, if you are at a marina connected to shore power, then heating the hot water tank with shore power is the best option.

- On the THERMOSTAT in the pilothouse (mounted on the microwave oven cabinet, inboard side (see bottom photo on right), the slide switch at the bottom left corner needs to be in the “Off”, position before turning on the System Heat.
- On the SYSTEM HEAT/ENGINE HEAT” panel aft of the thermostat, flip the toggle switch up to the “SYSTEM HEAT” position. (see photo on right).
- Back on the THERMOSTAT, slide the switch at the bottom left corner to the right, “Heat”, position. Using the gray UP/Down arrows, set the temperature to a comfortable level – we like to start with 72deg and adjust as needed after the cabin warms up.
- After about 30 seconds you will hear the hydronic system pump turn on. Then after several more minutes the diesel heater furnace will fire up. After approximately 10 minutes the system will be fully heated and you should get warm air from the heater vents when the fans are turned on. See fan locations listed below.
- The thermostat controls all four zones in AmyAnn: salon, stateroom and both heads.
- There are five fan switches: salon, flybridge, stateroom and both heads. See below for locations.
- HEATER EXHAUST is on the starboard side hull next to the salon. Please ensure the area is clear of fenders and lines when the heater is running as the hot exhaust will melt these items.
- Hydronic system expansion tank is located in flybridge cabinet on port side.



### Heater Fan Switch Locations

Salon – Forward end of settee seat base.

Pilothouse – Inboard end of port settee seat base.

Stateroom – Starboard side of berth.

Master Head – Adjacent to toilet flush buttons.

Guest Head – Forward side of faucet base.

- To completely shut down the cabin heater and hydronic system, slide the thermostat switch to OFF then flip the toggle switch to the middle (OFF) position.
- If you still need the system on for heating hot water but no longer want cabin heat, then make sure all of the fans in the five zones are turned off. If you want the most effective heating of the hot water, then see the second bullet point at the top of this section.
- Heater Reset Button – this rarely happens, but if the heater won't fire-up after following all of the above startup steps then the system likely needs a reset (re-prime of the fuel feed). The re-prime button is located in the engine room on the starboard side up high on the outboard face of the refrigerator base (large box with mesh-like paneling). See photo on right. The reset is the black



button above the red text saying "HOLD TO PRIME". The actual button in the center is red in color – the color doesn't show up in the photo. Push the button in and hold for 5 seconds. Now try restarting the heater.

## 20. Lighting

### QUICK NOTES

- Flip ON Forward, Main and Aft Cabin Lights breakers on the DC panel.
- Lighting switches are on cabinet faces or bulkheads in each living area.
- The salon and pilothouse overhead lighting have dimmers. Tap the switch to turn lights on or off. Press and hold to dim.

## 21. Refrigerator/Freezer/Ice Maker

### QUICK NOTES

- The refrigerator/freezer breakers on both the AC and DC panels should always remain ON.
- The ice maker currently can only be used when plugged into shore power.
- The small fan in the refrigerator works to even out the temperature. Place it toward the back on the glass shelf with air spout pointing upward. Extra D batteries are in the chart table.

## 22. Showers and Sump

### QUICK NOTES

- Flip ON the Water Pressure, Accessories and both Head breakers on the DC panel.
- Both showers in the heads drain into the same sump. The sump pump is wired to a float switch which will pump out the sump automatically while showering. It pumps slowly so it helps to turn water off and on while using.
- Please try to aim the shower head away from the door in the forward stateroom shower to keep water from dripping onto the floor outside the shower. If some water does escape, please mop up after showering.
- The shower sump pump can be used as a supplemental bilge pump in an emergency.
- There is a temporary shut off valve where the shower faucet is connected to the wall. Using it will help keep the water temperature constant once you have adjusted it for your shower.
- There is also a fresh water shower fixture in the cockpit. The access hatch is located near centerline on the inboard face of the transom. Lift the faucet up to pull out the hose. Also useful for washing off shoes after returning from the beach.

## 23. Stove and Oven

### QUICK NOTES

- Propane tanks are located up on the flybridge, port side seat, aft end.
- On the DC panel, flip on the "ACCESSORY" beaker to power the Trident solenoid switch panel.
- Solenoid switch (on small black Trident panel) is located in the galley on the face of the cabinet below the sink.
- San Juan Sailing and Yachting's staff checks the propane tanks every week and fills them if needed.

## 24. Thrusters

### QUICK NOTES

- Bow and stern thruster controller (joysticks) are at the helm. Press and hold both ON buttons until the green light comes on.
- Thruster controller will turn off after 10-15 minutes of no use.
- Thrusters can only be used in short (2-3 second) bursts or will overheat and trip the breakers.
- Bow thruster breaker is located in the forward stateroom under the berth cushion in the port side compartment at the aft end. Reset the breaker by pushing down on the yellow button in the center of the yellow switch handle.
- Stern thruster breaker located in the cockpit locker on the starboard outboard face of the rudder post support structure. Reset the breaker by pushing down on the yellow button in the center of the yellow switch handle.

## 25. Water

### QUICK NOTES

- The water pump breaker is located on the DC panel.
- There is one water fill for two water tanks (145-gal total) which are cross-connected with a large diameter hose. As you fill the tanks, watch for the water to bubble over. Then wait a few minutes to let the water settle and slowly "dribble" the water into the tank to top off. Verify the tanks are full by checking the water level gauge.
- Water fill is located in the cockpit on the port side, on the salon wall at floor level behind the white plastic hatch. We always double check to make sure the cap reads "Water" before we fill.
- Key for water fill deck caps located in pilothouse, small drawer on port side of nav table.
- Water level gauge is located at the forward end of the galley. Turn on switch to read level. Sensor is mounted on the starboard tank only (that is the last tank to be filled).
- There is no accumulator tank in the water system so the water pump runs each time faucet is open. The speed of the pump varies depending on flow rate.

## 26. Water Heater

Hot water is produced in three ways (for all three ways, the WATER HEATER breaker on the AC panel should be flipped ON):

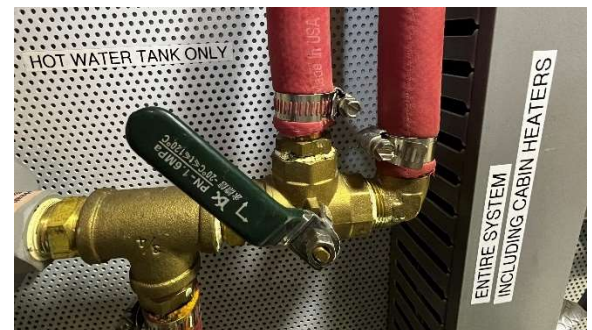
- 1) **Connected to shore power** with the SHORE POWER breaker on the AC panel flipped on.
- 2) **Hydronic Cabin Heater** running while on battery (please do not let battery drop below 12.2V - voltage reading with no loads).
- 3) **Engine Heat**. The engine automatically heats the hot water tank while running. Note that this method does not heat the water as well as the first two – especially if you're starting with a cold engine and/or you aren't able to run the engine at cruising RPM.

Following are important instructions regarding heating the hot water using the cabin heater (hydronic system) or using the engine heat method:

### Hydronic Cabin Heater Method

#### A) Hydronic System Flow Control

- **Cabin Heat/Hot Water Tank Selector Valve** – In the engine room on the port side near the aft end against the hull, there is a black-handled valve that controls the flow of the hydronic system.
- **Hot water AND cabin heat** at the same time - the valve handle must be turned clockwise to the handle stop to get flow to the cabin heaters (pointed downward to the right at a 45deg angle - see top photo on right). This position will heat the hot water tank too but not as efficiently as when the handle is turned back 180deg counterclockwise to the **Hot Water Only** position (pointed upward to the left - see lower photo on right). Note that if you want to continue heating the hot water tank, but no longer want heat in the cabins, you simply switch off all of the heater fans. Refer to Section 18, Heater (Cabin) section, for locations of all the fans.
- **Hot Water only** (you don't need cabin heat). Turn the handle back 180deg counterclockwise to the **Hot Water Only** position (pointed upward to the left - see lower photo on right), then this position will give you hotter water quicker. **Also note**, if you are at a marina connected to shore power, then heating the hot water tank with shore power is the best option.



#### B) Starting-up the Hydronic Heater

- On the THERMOSTAT in the pilothouse (mounted on the microwave oven cabinet, inboard side (see





bottom photo on right), the slide switch at the bottom left corner needs to be in the “Off”, position before turning on the System Heat.

- On the SYSTEM HEAT/ENGINE HEAT” panel aft of the thermostat, flip the toggle switch up to the “SYSTEM HEAT” position. (see bottom photo on right).
- Back on the THERMOSTAT, slide the switch at the bottom left corner to the right, “Heat”, position. Using the gray UP/Down arrows, set the temperature to a comfortable level – we like to start with 72deg and adjust as needed after the cabin warms up.
- After about 30 seconds you will hear the hydronic system pump turn on. Then after several more minutes the diesel heater furnace will fire up. After approximately 10 minutes the system will be fully heated and the hot water tank should begin warming (or continue warming if already hot from running the engine).

### Engine Heat Method

- This method should be used when you’re **underway and you don’t require cabin heat**.
- **After the engine has warmed to operating** temperature, on the SYSTEM HEAT/ENGINE HEAT” panel aft of the thermostat, flip the toggle switch down to the “ENGINE HEAT” position. (see photo above).
- The circulation pump for the hydronic system will turn on and begin circulating coolant through the hot water tank.

## 27. Windshield Wipers

### QUICK NOTES

- Flip ON the Wipers breaker on the DC panel.
- The wiper controller is located on the overhead dashboard above the helm.
- Press the wiper icon once for 5 sec intermittent wipe.
- Press the rabbit icon to scroll through options as follows:
  - a) Once for 3 second intermittent.
  - b) Twice for continuous low speed.
  - c) 3 times for continuous fast speed.
- Press the wiper icon a second time to turn OFF wiper.
- The washer and sensor icons are inoperative.




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We hope this information helps. Have a great time!!