



## ~ OWNERS' NOTES ~

### ***Welcome aboard!***

***Welcome to Island Time***—our beautiful American Tug 34. We are both in love with this reliable, beautifully-designed vessel. We think of her as our “portable cabin” plying the waters of the amazing San Juan and Gulf Islands. We hope you will enjoy your “*Island Time*” as much as we do.

She was constructed in La Conner during the era of graceful lines and fine wood detail. There’s a huge scoop cut into the ceiling over the stairs which flows upward into what is the vestigial smoke stack every tug yacht should have. At the top is a clear plastic plate, which turns the stack and scoop into a translucent skylight. The side doors are hinged with rounded corners, there is lots of original teak wood finish, along with added handmade teak racks. The floors are carpeted for comfort and sound control, and most lights are dimmable for day/night operation.

We have rigorously maintained and upgraded *Island Time* in the hopes that you will have comfort and ease as you go exploring this wonderful part of the world.

Please read the attached notes thoroughly. We have compiled this information to help make your journey safe and totally enjoyable. Bon Voyage! —Michael and Constance

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## Our charter guests love *Island Time!*

### Some comments from recent guests:

*We would like to thank you for a wonderful three weeks on ISLAND TIME.  
We had a great time visiting both the San Juan and Gulf Islands.*

~

*After watching the often cold and rainy May weather [where we live] for two years we decided that it might be time to try a trawler. We're glad we did.*

~

*ISLAND TIME was everything we hoped she would be, and we can't say enough nice things about your boat. Comfortable, quiet, well laid out, well-maintained, well-equipped, efficient, intuitive, and a bunch of other superlatives. Not to mention damn fine looking.*

~

### *What we really like about Island Time, in no particular order:*

- *Owner's notes. This became our bible. Well organized, well written, very complete.*
  - *Plenty of easy-to-deploy fenders with roving spares.*
  - *Storage and clothing spaces with illuminated interiors.*
    - *Having real vacuum onboard.*
    - *Capacity of water and holding tanks.*
    - *Thoroughness of inventory.*
  - *Boat handling. We dodged plenty of logs.*
- *Solar panel. We'd be down to around 80% overnight but would be topped off by midday.*
  - *Heaters. We loved the options and used them all.*
- *Engine access. Very clean, accessible space. Routine inspections were a piece of cakes.*
  - *Fuel consumption. Basically only twice as much as our 35hp sailboat*
    - *Very comfortable bed.*
    - *A real shower ... with hot water, no less.*

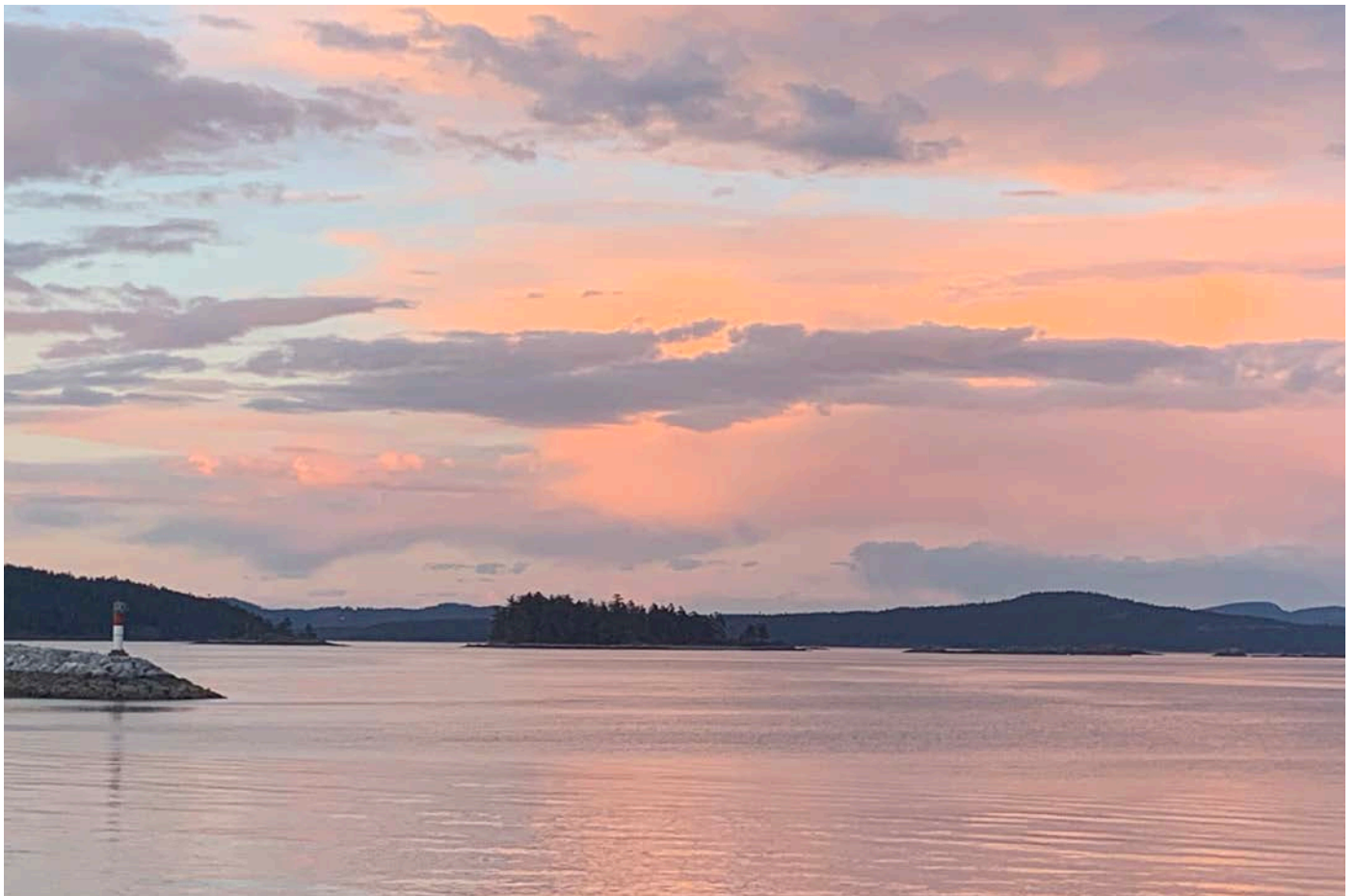
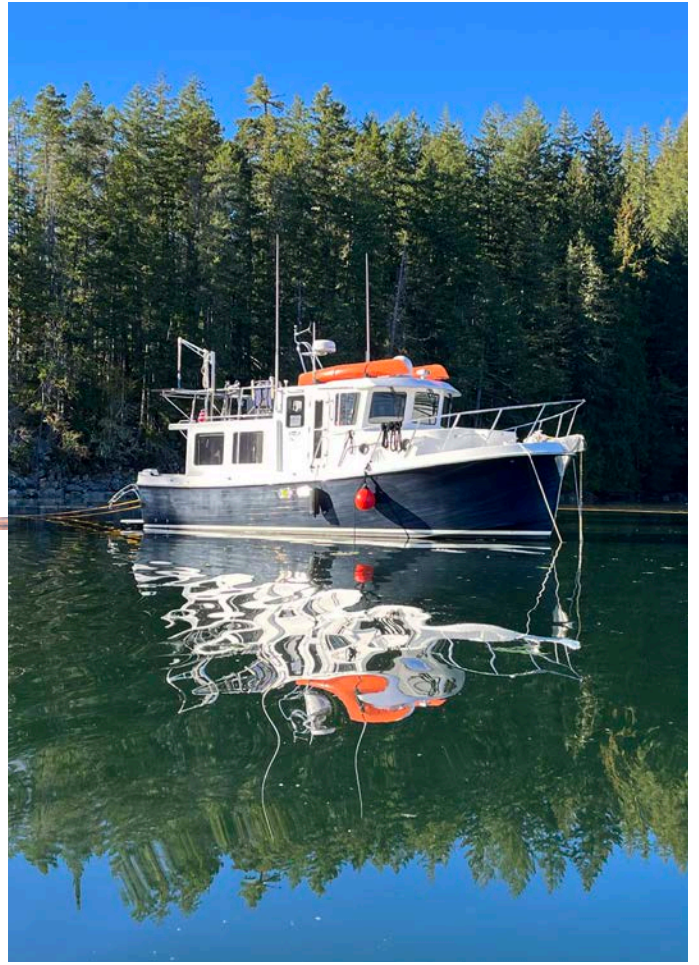


## ***Island Time Owner's Notes***

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## ~INTRODUCTION~

**Island Time** is a 2004 American Tug 34, powered by a Cummins diesel engine, with a HP rating of 375 @ 2600 RPM. It is a pilothouse coastal cruiser built on a Lynn Senour hull and has capacity for 400 gallons of fuel and 150 gallons of water. At a time of high fuel prices and environmental concern, *Island Time* provides an efficient and comfortable cruising solution. According to Cummins Northwest, Inc. data, the American Tug 34 provides hours of cruising fun at reasonable speeds with very limited fuel consumption. American Tug provides the following sea trial data<sup>1</sup>:

| <b>RPM</b> | <b>SPEED THRU WATER (Kts)</b> | <b>FUEL CONSUMP (GAL/HR)</b> | <b>FUEL ECONOMY (NAUT MILE/GAL)</b> | <b>RANGE<sup>2</sup> (NAUT MILE)</b> | <b>DESCRIPTION</b>  |
|------------|-------------------------------|------------------------------|-------------------------------------|--------------------------------------|---|
| 1000       | 5.7                           | 1                            | 5.7                                 | 2052                                 | —   |
| 1200       | 6.5                           | 1.82                         | 3.57                                | 1285                                 | Economy Cruise & Max Displacement Speed (blue dot on Tach)                                |
| 1400       | 7.3                           | 2.64                         | 2.77                                | 997                                  | —   |
| 1600       | 8                             | 3.68                         | 2.17                                | 781                                  | —   |
| 1800       | 8.55                          | 5.1                          | 1.68                                | 604                                  | Longer Distance Quicker Cruise  |
| 2000       | 9.3                           | 7.22                         | 1.29                                | 464                                  | —   |
| 2200       | 10.3                          | 9.4                          | 1.1                                 | 396                                  | Run at 2200-2400 rpm for 30-60 minutes each day boat is underway (green dot on Tach)      |
| 2400       | 11.85                         | 10.4                         | 1.14                                | 410                                  | Maximum rated rpms (2600-2800). Do so for only one hour out of eight (yellow dot on Tach) |
| 2600       | 13.7                          | 12.4                         | 1.1                                 | 398                                  |   |
| 2800       | 15.4                          | 15.3                         | 1.01                                | 363                                  |   |

1—Sea Trials are performed in “light Ship” condition—typically the vessel will have ¼ fuel, full water and empty waste, two persons aboard.

2—Range is based on 360 gallons of Diesel (10% reserve).

**Note:** All system operation instructions assume you have appropriate AC and DC circuit breakers powered.

We hope you enjoy cruising with *Island Time*. 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.

Thank you, Michael Eshelman and Constance Bollen (Owners) [mikee@shebean.net](mailto:mikee@shebean.net)

**Note:** Throughout this manual, red lettering indicates safety items or key operational notes.

***These notes are prepared for Quick Reference. American Tug, Inc. has provided an operation manual for the 2004 model. Much of the information is taken from the Tug Operator’s Manual but has been condensed for quick reference. For more in depth systems information please consult the owner’s manuals and component manufacturers’ installation/operation manuals on the boat. They are large notebooks found in the document cabinet located under Stereo unit under the port side Helm Station seat.***

***The Owner’s Notes assume that the charter guest/operator is experienced and competent in the safe operation of a 22,000 pound, 37 foot powerboat, 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 boat, or for exercising reasonable care and good judgment in the handling and operation of the boat.***

NO WARRANTY IS EXPRESSED OR IMPLIED.

# 1. VESSEL INFORMATION, SPECIFICATIONS, AND EMERGENCY/SAFETY EQUIPMENT

## Vessel Information:

**Washington State Parks Annual Permit Decal**—The state no longer sells annual moorage decals to chartered vessels. Charter guests may use state facilities and will need to pay via onshore kiosks.

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

**Vessel Official Number**—**1159570** (same number as shown on the Coast Guard Certificate of Documentation found in Section 5 Documentation of the Charter Guest Reference Manual (white binder). *Island Time's* number is located on the hull in the starboard side of the engine room, just below the engine. Look for 3" high characters.

**Coast Guard Boarding Document**—Refer to the Charter Guest Reference Manual (white binder), Section 5 Documentation. This bulletin 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.

## Specifications

|                 |  |                 |   |
|-----------------|--|-----------------|---|
| Year:           | 2004   | Engine:         | 370 HP Cummins diesel   |
| Make/Model:     | American Tug 34  | Fuel: (2 tanks) | 2 @ 200 Gal = 400 US Gal total                                |
| LOA:            | 36'-6"   | Water:          | 150 US Gal  |
| Beam:           | 13'-3"   | Holding:        | 46 US Gal   |
| Draft:          | 3'-5"  | Heads:          | 1 Fresh Water VACUFLUSH                                       |
| Displacement:   | 20,000 lbs.  | Electronics:    | Garmin GPSMAP 1222/1224<br>Chartplotter/Radar/Sonar/Autopilot |
| Height:         | Antenna up: 22'*   | Staterooms:     | 1 Double  |
| Refrigerator:   | 17"W x 28"H x 16"D   | Solar           | 1 Panel @ 430 W   |
| House Batteries | (3) AGM 4D @ 630 AH Tot.   | Galley Freezer: | 17"W x 14"H x 16"D  |
| Salon Headroom: | 6'-6"  | Topside Freezer | 25"W x 17"H x 17"D  |
| Stateroom 1:    | Headroom: 6'-9"; Berth (bed) Dimensions: 6'-6" L x 3'-0" W (head) & 4'-5" W (feet)—tapered standard Queen size |                 |   |

\* Height is from rigid antenna tip to waterline with antenna up for use in determining height requirement under bridges. If Charter Guest is experienced, antenna(s) may be placed in down position in which case the height is reduced to 16'.

## Emergency/Safety Equipment

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

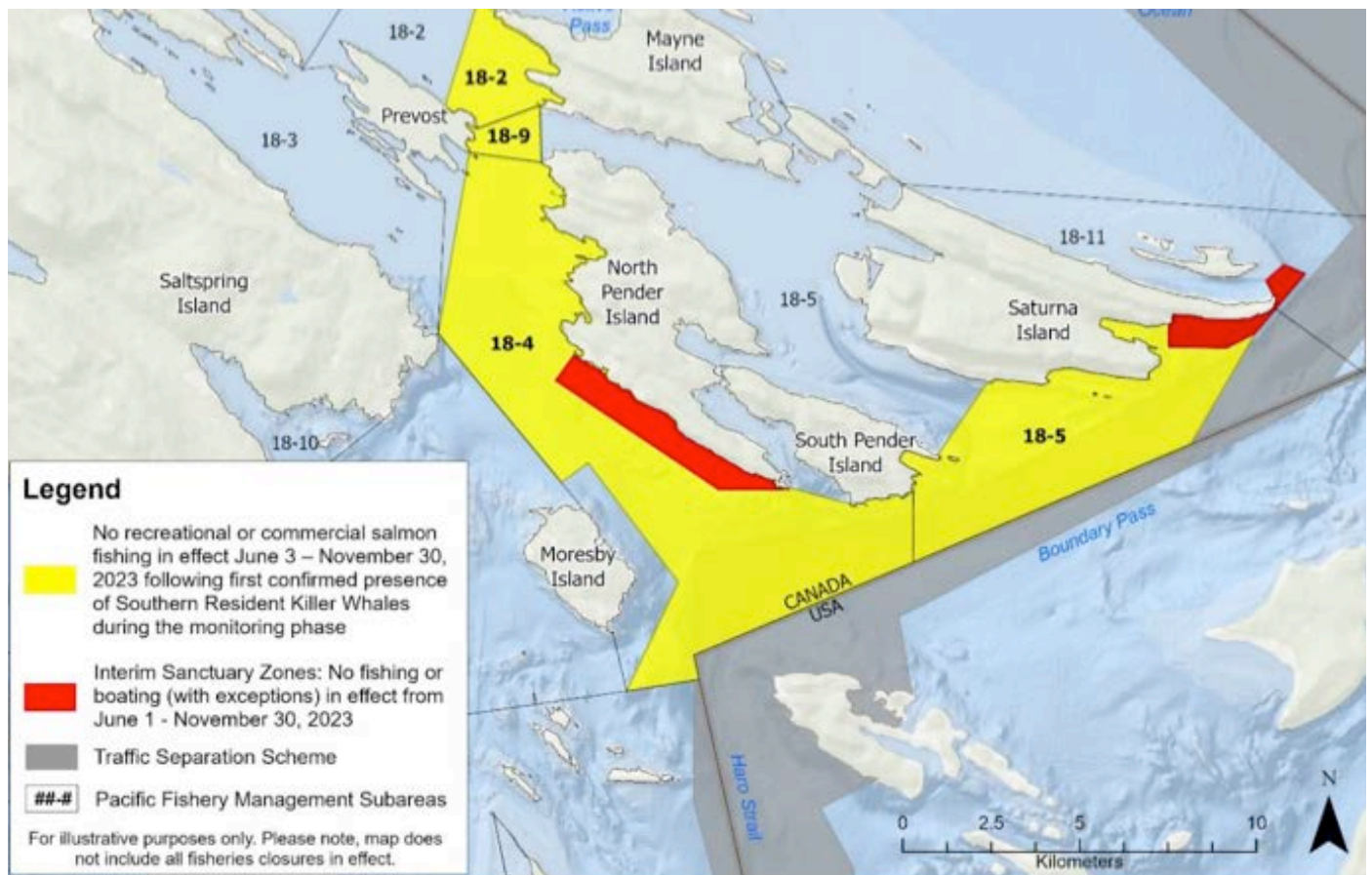
| Item  | Location   |
|---|--|
| Bilge Pumps (3)                                     | Rocker switches are located in the pilothouse on the dash board. During normal operation the switches are left in the middle "AUTO" mode. Can be switched to "ON" for override by pushing rocker towards starboard. Pumps are located as follows: Bow—under the floor board in the head, Midship—access via the large floor hatch in the salon—look under the board covering the drive shaft, Stern—in lazarette |
| Carbon Monoxide Detectors (2)                       | One in the forward berth on starboard wall; the other in the salon, just inside stern door, starboard side below propane panel.  |
| Cockpit Cushions                                    | In case of crew overboard (COB), throw anything that floats, quickly.  |
| Fire Extinguishers (4)                              | <ol style="list-style-type: none"> <li>1. Under Galley Sink - Handheld</li> <li>2. Exterior Cabinet (Cockpit Locker)—Handheld</li> <li>3. Stateroom Port Closet—Handheld</li> <li>4. Engine room - Permanently mounted</li> </ol>  |
| First Aid Kit                                       | Pilothouse—starboard step locker   |
| Flare (Electronic) and Folded Plastic Distress Flag | In mesh bag in Pilothouse—starboard step locker  |
| Flares (Pyrotechnic)                                | Older pyrotechnic flares are in green mesh bag in mesh bag in Pilothouse—starboard step locker. To be used as last resort.   |
| Flashlight  | Pilothouse, large navigation drawer at waist level.  |
| Handheld Air Horn                                   | In mesh bag in Pilothouse—starboard step locker  |
| Lifesling   | Starboard stern pulpit (Upper deck—aft rail). Please review the cartoons on the face of the case for procedures. The lanyard is secured to the boat so that tossing the floating harness allows it to tow behind the boat like a ski tow rope. Circling the person overboard will draw the recovery line near them.  |
| Personal Floatation Devices (PFDs) - 2 inflatables  | Located in the stateroom hanging lockers. NSO: please check for "green" visible at bottom of clear canister before each cruise. That verifies the auto-inflate function when immersed. We wear these at all times when working the deck and often in the cockpit.  |
| Personal Floatation Devices (PFDs) - foam vests     | Located under the large floor hatch in the salon. NSO: We wear these at all times when working the deck and often in the cockpit.  |
| Propane Detector                                    | The Xintex propane detector and solenoid switch control panel is located in the salon just inside stern door, starboard side above CO detector.  |
| Tapered Plug, Universal Foam Orange StaPlug         | Engine room, starboard side  |
| Tools   | Main tool box in salon cabinet, port stern side. Additional tools located under the large floor hatch in the salon   |
| Spare parts   | Most spares located under the large floor hatch in the salon. Smaller spare parts located in drawers under port helm seat.   |



## ~ BEING WHALE WISE ~

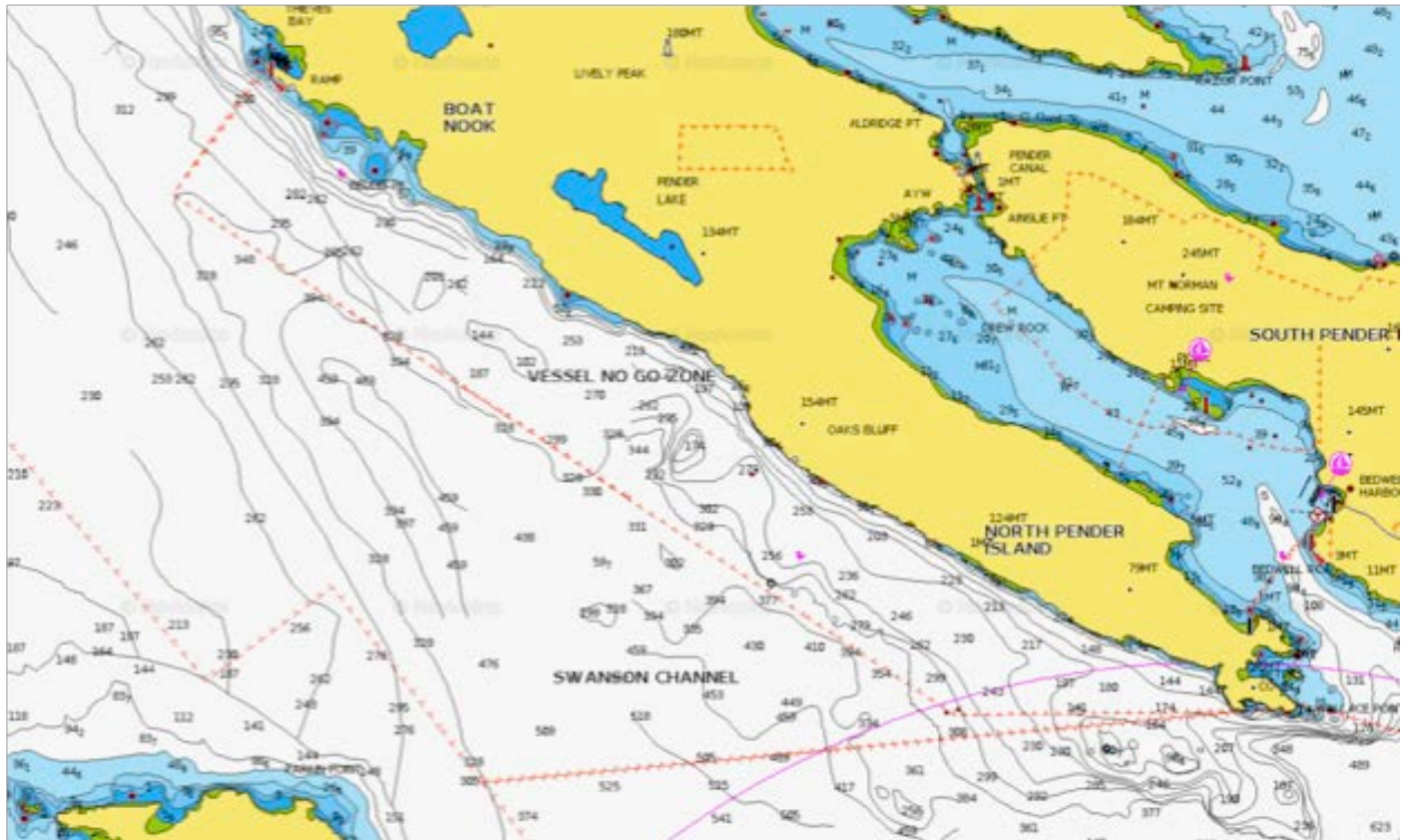
Our local Killer Whales are a wonderful part of the local family. But they are having a difficult time surviving due to declining salmon runs. These whales use echo location to find and catch their food. Therefore, noise pollution from boats and ships make it harder for them to thrive. In an effort to 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 Island Time. In general, stay at least 400 ft. 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 *Island Time'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.

## 2. PREPARING FOR DEPARTURE

### A. POWER AND CONFIGURATION CHECK

1. The electrical system is divided into 4 distribution systems: 120V AC panel, 12V DC panel, the solar monitor, and the Magnum Energy charger/inverter monitor/controller. The breaker panels are located behind the smoked Plexiglas door to the left of and below the helm (*See photo* next page). The Magnum unit and solar monitor are located in the pilothouse just below the forward center window. The main battery switches are located next to the starboard side helm seat (*See photo* next page). When not connected to shore power, and neither the main engine nor the generator are running, batteries are providing all power. Therefore, monitor the use of onboard electricity carefully with your volt meter located on the DC Panel, and turn off electrical devices that are not needed. For more information, see Section 11.
2. For getting underway the settings below are the recommended configuration in most instances:
3. Check DC Voltages. There are 3 battery banks: Start, House and Generator. Using the Victron battery monitor, check the House battery percent and the start battery voltage. Check the Generator battery using voltmeter on DC panel. Approximate Voltage Battery State:

| <b>Voltage</b> | <b>State</b>            |
|----------------|-------------------------|
| 12.8           | 100%                    |
| 12.4           | 75%                     |
| 12.2           | 60% (time to recharge)* |
| 11.8           | 25%                     |
| 11.6           | 0%                      |

\* **Note:** Running the voltage below 12.2 volts shortens battery life. Should the house batteries discharge to this level, please start the generator or plug into shore power or run the engine to recharge the batteries.

### B. ENGINE ROOM CHECKS (performed daily, before cruising).

At the helm station switch panel, turn ON the Engine Room Lights. Enter the engine room through the port side hatch in the floor in of the pilot house.

- 1 Guests should not use dipstick to check for oil leaks—only a visual check of floor. Exceptions to this are Saturday mornings of multi-week trips. After each week of multi-week trips, CAREFULLY UNSCREW THE OIL LEVEL DIP STICK AS INDICATED ON THE DIP STICK CAP—FAILURE TO UNSCREW HAS RESULTED IN DAMAGE TO DIP STICK TUBE. Check oil level (The yellow dip stick is on the port side of the engine) is between the hash marks. If the oil level is low (below the bottom mark), add oil from blue plastic jug using the oil funnel. DO NOT OVERFILL THE OIL CAPACITY of the engine—it should take less than 1 quart to fill the oil supply from the lower line to the upper line on the dipstick—do not fill above top mark on the dip stick. When replacing the dip stick ensure it is properly seated. If not seated, oil will spray out making a mess.



**BREAKER PANELS**

DC Main Switch

Battery Parallel Switch

DC Main Toggle Switch



Emergency Battery Disconnect

**MAIN BATTERY SWITCHES**

2. **Guests should not need to top off coolant level—only a visual check of the level in the reservoir.** Exceptions to this are rare instance where the reservoir is nearly empty and also Saturday mornings of multi-week trips. If very low and after each week of multi-week trips, check the coolant level (starboard side access hatch) of the white plastic recovery reservoir mounted on the forward bulkhead in front of the engine. The reservoir should be between  $\frac{1}{4}$  and  $\frac{1}{2}$  full. **If the coolant level is low:**
  - a. Add coolant to the recovery reservoir to the appropriate level, being careful not to overfill—the coolant needs an opportunity to expand.
  - b. The pre-mixed engine coolant is located with the spares kits in the starboard side of the engine room.
3. **Guests should not use dipstick to check for oil leaks in the generator (port side access hatch)—**only a visual check of floor inside generator casing. Exceptions to this are Saturday mornings of multi-week trips. After each week of multi-week trips, check oil level is between the hash marks. If the oil level is low (below the bottom mark), add oil from blue plastic jug using the oil funnel. **DO NOT OVERFILL THE OIL CAPACITY** of the engine—do not fill above top mark on the dip stick. When replacing the dip stick ensure it is properly seated. If not seated, oil will spray out making a mess.
4. **Guests should not need to top off coolant level of the generator—only a visual check of the level in the reservoir.** Exceptions to this are rare instance where the reservoir is nearly empty and also Saturday mornings of multi-week trips. If very low and after each week of multi-week trips, check the coolant level. The generator's diesel engine uses coolant just like the main engine. A plastic coolant recovery reservoir is mounted on the port side of the generator. Visually check that the coolant level shows approximately 2 inches when the engine is cold and 6 inches if hot. **If the coolant level in the generator is low:**
  - a. Add coolant to the recovery reservoir to the appropriate level, being careful not to overfill—the coolant needs an opportunity to expand.
  - b. Use the pre-mixed engine coolant located with the spares kits in the starboard side of the engine room.
5. **Check the RACOR fuel filters for water or debris (port side access hatch).** Few things you do are as important to your safety on the water as having uncontaminated fuel going to the engine. As you enter the engine room through the port side hatch, look on the aft bulkhead where you will find the RACOR fuel filters. The 2 larger fuel filters on the left are for the main engine. The smaller fuel filter on the right is for the generator. Use a flashlight while performing the following visual checks below.

Make sure both filters are free of debris or water. Look through the glass at the liquid in the bottom of each filter. You don't want to see contaminants or a separation of fluid in the bottom. (Water is heavier than diesel fuel, and will collect at the bottom of the glass bowl if there is water in the fuel.) **IF YOU SEE CONTAMINANTS OR LIQUID SEPARATION**, you want to remove them without removing all the fuel in the glass bowl:

- a. Close the shut-off valve to the specific fuel filter (located under the fuel filter)
- b. Be prepared to catch any fuel from the filter with a small container and some rags.
- c. Remove the plug from the bottom of the drain valve and slowly open the valve to evacuate just the water or contaminants, and then quickly re-tighten the valve and reinstall the safety plug
- d. Open the shut-off valve.

**Note:** If the engine doesn't start, you may need to prime the fuel system at this time.

6. Check the fuel filter of the GENERATOR for water or contaminants. **If you see liquid separation or other contaminants**, you need to remove them. Repeat steps 1 through 4 above.
7. Ensure the valve on each **RAW WATER THRU-HULL is in the 'open' position** (lever vertical/in-line with the valve). Access via the port side floor hatch in the pilothouse. The main engine thru-hull is at the forward bulkhead and the generator is at the aft bulkhead.
8. Make sure the RAW WATER SEA STRAINER for the engine and generator are free of debris. If necessary:
  - a. Using a flashlight, visually check to see if that the engine strainer is clear and not plugged with seaweed or debris.
  - b. To clean the strainer, close the seacock (lever horizontal), unscrew the top with (may require a tool), lift out the basket, swish it back and forth in a bucket filled with clean water, and then re-install it. There is a blue bucket in the lazarette that can be filled with clean saltwater. Use the bucket to prevent dropping it overboard!
  - c. Replace the screen and secure the cap and tighten by hand only.
9. REOPEN THE SEACOCK!!
  - a. Make sure that the seawater strainer for the generator is free of seaweed or debris. Use the same procedure as above. It is a smaller unit similar to the engine strainer and is located on the left side (facing aft) of the generator.
  - b. Remember to REOPEN THE SEACOCK!!
10. Complete a visual check of the engine room for leaked oil (this is the daily check for any significant oil leaks), fuel, or coolant, loose items that should be secured, or anything unusual.
11. When you have completed the engine room checks, turn off the engine room lights at the helm station switch panel. Failure to do so may needlessly deplete the batteries.

### **C. DISCONNECT SHORE POWER**

1. At the AC Panel next to the helm station, turn off all AC breakers (especially Shore 1 and Charger/Inverter).
2. At the dock pedestal, turn off shore power circuit breaker.
3. Disconnect yellow electrical cord from the dock pedestal and the boat, coil up and place in lazarette.
4. The Refrigerator and Freezer (if there are contents in the topside freezer) breakers on the DC Panel should always remain "ON".

### **D. CLOSE ALL PORTS AND HATCHES** that might permit water to enter the interior, especially during rough seas and windy conditions.

### **E. CHECK AROUND THE BOAT.** Review the exterior area around the hull to confirm that there are no obstacles in the water or loose items that should be secured.



## F. HELM CHECKLIST

1. Check the fuel level in both the port and starboard fuel tanks using the Tank Monitor Panel located below the forward center window in the pilothouse (See photo above). Note that the tanks should be full on the first day of your charter. See fueling instructions below if fuel is needed.

**Note:** The Tank Monitor is not 100% accurate; please use the reported fuel levels as approximate. If on an extended trip, the site gages in the Tank Room provide a more accurate measure of fuel level when these can be used. After roughly 90 gallons of fuel has been drawn down, the fuel level will then be below that of the top of the sight gage.

2. Check the water level using the Tank Monitor Panel located below the forward center window in the pilothouse. See instructions below for adding water, if necessary.
3. Switch on the following breakers: Electronics (for the Chartplotter/GPS), VHF and Auto Pilot. The Electronics and VHF breakers are in the panel upper left and the Autopilot breaker is in the panel upper right. Please note that there are three 12V breaker panels at the helm:
  - 1) One large panel on the upper left portion of the cabinet
  - 2) one small panel on the lower left
  - 3) one smaller panel on the upper right
4. Start up the Garmin GPSMAP 1222/1242 Chartplotter and GPS Radar by pressing and holding the red power button until the display comes on. If the warning screen appears touch "I agree".
5. Check Waste/Black Water tank is empty using middle lower scroll buttons on chartplotter.
6. If not already on, power on the Standard Horizon VHF radio:
  - a. Check the weather channel (Channel WX 4 or 7)
  - b. Turn to Channel 16 to monitor the hailing/emergency channel.
  - c. While underway, radio checks can be done on Channel 22 in the U.S. and 83 in Canada.

## 3. GETTING UNDERWAY

### A. START ENGINE.

1. Set shift lever to neutral.
2. Turn ignition key one click clockwise (the low oil/overheat warning will sound). Hold down Pre-Heat switch on port side of the helm for approximately 15 seconds – you may see a small Voltage meter dip at first, then a small rise. Whether you see the voltage change or not, start the engine after the 15 seconds.
3. Push Start button and crank engine until it starts. **Note:** Cummins engine company states “do not crank engine for more than 10 seconds, wait 2 minutes to allow the starter motor to cool down before restart attempt.” Immediately release your hold on Pre-Heat switch after engine starts, and confirm switch returns to Off position.
4. Check that cooling water is coming out of the exhaust.

**Note:** Release Pre-Heat switch BEFORE operating the Bow or Stern Thruster!

### B. TURN ON BOW AND STERN THRUSTERS BY PUSHING BOTH ON BUTTONS AT SAME TIME.

The amber light between the buttons will come on. Toggle the joystick momentarily in both directions to ascertain that the thrusters are functioning properly

1. The thruster is used primarily in maneuvering at or near the dock. In open water while underway, the thruster is not effective. Thrusters may be operated via the handheld remote to allow for better operator mobility.
2. The thruster will turn off automatically after a period of non-use. Typically, the thrusters stay active for as long as it takes to exit most harbors. If additional time is required, restart in the same manner.
3. Use thrusters in short bursts. Often the “low voltage” light and buzzer will sound when operating the thrusters—this is normal and no cause for concern.
4. Do not use thruster continuously for more than 1 minute or it will overheat. If it does overheat, it will reset after a brief cool-down period.

### C. CHECK WIND AND CURRENT DIRECTIONS.

### D. ENGINE WARMUP

1. Advance the throttle to 800 RPM to warm up the engine
2. After about 5 minutes decrease to 600 RPM
3. Continue warm up by advancing throttle to 1000 rpms when clear of marina.
4. Operate engine no faster than 1400 rpm until the coolant temperature reaches 140 degrees.
5. Operate the engine at any speed after reaching normal operating temperature of 180-185 degrees.

6. Be sure to run *Island Time* at 2200-2400 rpm for 30-60 mins each day—this helps prevent build-up in the cylinders.
7. If you are operating at the maximum rated rpms (2600-2800), do so for only one hour out of eight.

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

**E. CHECK AUTOPILOT RUDDER POSITION INDICATOR** and set rudder to neutral position.

**F. USE THE BOW THRUSTER** (via dashboard or via handheld remote) to control the movement of the bow, and the stern thruster for the stern, while operating the throttle in short applications of forward or reverse; pausing in neutral; as you maneuver in the marina.

**Note: when using reverse, the STERN WALKS TO STARBOARD.**

**G. SINCE THE STERN WALKS TO STARBOARD WHILE REVERSING**, the boat tends to naturally turn in a counter-clockwise direction. So in tight spaces such as marinas:

1. Turn to Port using the "back and fill" maneuver
2. Turn to Starboard using bow and/or stern thruster(s)





## 4. CRUISING

- A. When clear of the marina,** make sure all mooring lines, fenders and anything loose are stowed.
- B. Complete the engine warmup (previous section).** After engine is warm, you will probably operate at 1200 to 1500 rpm, as this is very economical and quiet.
- C. Please make power changes slowly,** rapid power changes can put great stress on engine and drive components.
- D. Be sure to run *Island Time* at 2200-2400 rpm for 30-60 mins each day**—this helps prevent build-up in the cylinders.
- E. If you are operating at the maximum rated rpms (2600-2800),** do so for only one hour out of eight.
- F. Monitor the engine instruments at the helm station while cruising.**
  - 1. Volts should read between 13 and 14 at normal cruising.
  - 2. Water temperature should be between 160 and 180 degrees.
  - 3. Oil pressure should range between 30 and 100 depending on RPMs.

## 5. RETURNING TO DOCK

- A. Insure you have fenders out and mooring lines prepared:**
  - 1. On docking side of the boat, (starboard side is most convenient).
  - 2. At appropriate level for the dock.
- B. Turn on the bow and stern thrusters by pushing the 2 ON buttons simultaneously.** The amber light between the buttons will come on. Toggle the joystick momentarily in both directions to ascertain that the thrusters are functioning properly. Thrusters may be operated via the dashboard or via handheld remote to allow for better operator mobility. Thrusters will automatically return to standby (OFF position) after ~ 9 minutes.
- C. The engine cool down period** (the last 5 minutes) should be at slow speeds to allow the engine to cool down before shut off.
- D. Once docked and the mooring lines are secure, turn off the engine, turning key vertically.**
- E. At the DC POWER breaker panel next to the helm station turn OFF breakers** labeled VHF, AUTOPILOT, and ELECTRONICS.
- F. Please re-place the screen covers** on all the screens as direct sunlight can damage them.

## 6. CONNECTING TO SHORE POWER

SHORE POWER supports all AC equipment and receptacles on board, as well as the inverter/battery charger. Connecting to shore power provides up to 30 amps of 120 volt power to the vessel. The full 30-amps of power may not be sufficient to run all the ships systems if the batteries have been discharged. The inverter/charger will draw large amperage from the shore power to charge up the batteries and may cause the dock power to disconnect (breaker at AC Panel activates) if the draw exceeds about 30 amps. If this occurs, turn off any non-essential systems (e.g. water heater, electric heaters, etc) until your use of amps drop. This procedure will be even more important if you are limited to 20 or 15 amp dockside power, which is common at smaller marinas in Canada. Remember to re-check that AC power is still connected after 10 minutes (you may not notice if the breaker activates again)—if not, reduce the load more. The most important thing is to keep the batteries charged and not let them fall below 55%. As the charge level comes up, the inverter/charger will draw less power and enable you to turn on other systems like the water heater and / or electric heaters.

- A. Remove the shore power cord from the lazarette**, connect to the boat and lead to the dock pedestal (DO NOT CONNECT YET!). Check the power rating/plug size of the receptacle (that is 30 amp, 20 amp, or 15 amp). If Doc power is 20 or 15 amp, use the appropriate adapter stored in the starboard side drawer under the starboard side helm seat.
- B. At the dock pedestal, flip the shore power beaker to OFF.**
- C. Connect the power cord to the dock pedestal and flip the breaker to ON.**
- D. In the pilothouse at the AC Panel, flip on the Shore 1 and Charger/Inverter breakers** (note that there is a sliding protector on the Shore breaker to insure that the panel can be energized by either shore power or generator, but not both). The small green light should illuminate indicate shore power is now available at the AC Panel. If this green light fails to light or goes off after lighting, check the two additional shore power breakers located behind the settee cushion. These breakers are labeled Power and Reverse. If tripped, the must both be reset SIMULTANEOUSLY, not one at a time.
- E. At the Magnum Energy panel** (below and left of front window) wait 30 seconds for the system to boot up and check that the display reads "Charging" (Absorb, Bulk or Float). If it reads "Inverting" then press the Inverter button to turn off and start charging.
- F. Then turn on appropriate breakers for water heater, outlets and microwave.** Watch you amp meter for load. If the load exceeds 30 amps, the breaker will pop. If this occurs, turn off any non-essential systems (e.g. water heater or space heaters) until your use of amps drop.
- G. Outlets and Microwave.** Should any outlets fail to work, check your GFIs (one in the kitchen and on in the head) to make sure that they have not been tripped.

### **Notes:**

Any time you are connected to shore power, make sure the inverter on the Magnum control panel (port side of helm station table—green LED light not illuminated) is OFF. If illuminated, press the inverter ON/OFF button to turn off the inverter. Failure to do so could rapidly discharge the batteries should the dock side power fail. Should this occur, the inverter will attempt to run the entire electrical load from the batteries.

If the small green light at the ACPanel (that indicates shore power at the panel) fails to light, or goes off after lighting, check the two additional shore power breakers located behind the settee cushion. These breakers are labeled Power and Reverse. If tripped, they must both be reset **SIMULTANEOUSLY**, not one by one.

## 7. CLOSING THE BOAT

- A. RECHECK THAT THE MAGNUM PANEL IS "CHARGING".** If not charging, see "#6. Connecting to Shore Power." Leave the Refrigerator (and upper deck Freezer if freezer has contents) DC breakers ON.
- B. CLOSE ALL WINDOWS AND HATCHES.**
- C. LOCK THE DOORS.**
- D. ON THE DOCK, CHECK THE POSITION OF ALL FENDERS AND SEE THAT MOORING LINES ARE SECURE** (forward and aft spring lines, bow and stern lines).

## 8. ELECTRONICS

Garmin has recently updated the look of the chartplotter with new layouts and with some of the functions combined differently under different headings. The new layout has the various screens (Navigation, Radar, Waste Tank Level, Music, etc) available for scrolling at the bottom middle of the main screen. The Options button at the lower right gives access to some of the most familiar functions such as Layers, Settings, etc. This Owners Notes highlights some of the most-used features, but for more detailed descriptions, please consult the updated manual located under the helm seat. To activate the instruments, flip on the Electronics, VHF, and Autopilot breakers on the DC panels.

### 1. CHARTPLOTTER

GPS input to the chart plotter is internal to the plotter. If the unit doesn't power up after flipping on the Electronics breaker then press and press the power button at the lower left corner of the unit until it beeps and turns on the display. The maps provided with the Garmin chartplotter are determined by SJS to more than adequate for navigation in our waters. Optional memory cards for the chartplotter are available that allow you to view high-resolution satellite imagery and aerial reference photos of ports, harbors, marinas, and other points of interest; but are not provided with the charter. The chartplotter includes a touch screen—you can zoom in/out and move up/down/port/starboard using one or two fingers on the screen; or you can zoom in/out using the +/- buttons on the screen. To return to the ship (stop panning, clear cursor, etc.), select Stop Panning button in lower right

The Garmin unit includes an Automatic Identification System (AIS) transponding and receiving system. The AIS enables you to identify and track other vessels, and alerts you to area traffic. The chartplotter can show some AIS information about other vessels (including their headings, speed and vessel name) that are within range, that are equipped with a transponder, and that are actively transmitting AIS information. Upon startup of chartplotter in a crowded marina, the AIS system may begin to cycle through multiple alerts as the nearby vessels with AIS transmitters are noted by the unit. These alerts may be temporarily turned off.



The chartplotter manufacturer, Garmin, has also produced an app that allows for some remote navigation of the boat. The app, Active Captain, can be downloaded from the internet. Once onboard, your smart phone can be connected to the local Wi-Fi in the boat "IT Garmin" using the password "2064653351". Once enabled, use extreme caution in using the phone as a remote navigational tool—always keep your eyes on the water and the boats' readouts. The app can also be used to make adjustments to the Fusion sound system.

### Tips and Shortcuts

- a. Press power button to turn on the chartplotter. Press "I Agree" bottom center to accept conditions of use. If a Navigation screen has been most recently used by previous guest, boat should show up in bottom 1/3 of screen.
- b. If a Navigation screen was not recently used and it doesn't appear upon startup, select from lower middle. Two Navigation Charts should show—one with Autopilot shown on bottom strip—select either one. If you select the one with Autopilot, you may use the Garmin app "Active Captain" (described above) to adjust the autopilot strip on the bottom.
- c. If boat appears in center of chart and/or a 60 second "warming up" message is displayed, radar may be enabled even if Transmit isn't on. To turn off, go to Options lower right and you'll see Navigation Chart Menu (curled page icon)—press this then select Layers, then toggle Radar off

- d. The Course Over Ground (COG line) should be visible on the Navigation Chart. Heading is the black line, COG is blue. Additionally, both values are shown numerically in the right side menu in most navigation screens.
- e. From any screen, press the power button once, then use Backlight to change the brightness levels. This can be helpful when the brightness is so low you cannot see the screen. Alternately, you can select Options at the lower right, then Settings left bottom, then press System on right, then Sounds and Display on right, then Backlight, then slide bar up or down
- f. Select Options to open additional settings about that screen.
- g. Select Back or Close to close the menu when finished.
- h. There are several ways to turn on the radar and get the radar data overlaid on the plotter. The best is to press Options lower right, then Layers, then Radar. Boat is centered and only COG shows (no Heading line). Then to turn radar on/off use toggle upper left corner. Upper left button shows current status (on or off). When done with radar, go to Options, Layers, Radar to turn off or select favorite Nav as above to bring back previous settings
- i. Press power button once to open additional options, such as adjusting the backlight and locking the touchscreen.
- j. If previous guest(s) have left their entered waypoints or tracks, they can be cleared individually or all at once. To clear individual waypoints select Home, then Waypoints in bottom right, then select the ones to "Review," then Delete. To hide all waypoints or tracks, select Options at bottom right, then Layers, then User Data, then select "Waypoints".
- k. Normally, chartplotter should be turned off when no longer needed by turning off the breaker on the electrical panel. Alternately, you can press power button, and select Power > Turn Off System, or hold until the Turn Off System bar fills to turn off the chartplotter, when available.
- l. Not all category buttons may be visible. The arrows at the top or bottom of the buttons indicate not all buttons are visible. Swipe up/down to view all buttons
- m. You can mark an SOS or MOB (man overboard) location:
  - 1. Hold SOS for one second
  - 2. Select the SOS type as "man overboard"
  - 3. If necessary, select OK to navigate to the man overboard location. If selected, the chartplotter sets a direct course back to the location.
- n. Trip gauges show information for odometer, speed, time, and fuel for your present trip. Select Info > Trip & Graphs > Trip.
- o. The Fusion stereo system can be viewed and adjusted through the Garmin unit. Select stereo screen from lower middle.
- p. In addition to the hard copy of the operator's manual for the Garmin unit under pilot seat, the Owner's Manual may be electronically accessed via the chart plotter:
  - 1. Select Info from bottom towards left. Swipe to near bottom and select Owner's Manual.
  - 2. Select a manual.
  - 3. Select Open.



## 2. RADAR

The radar transmits a narrow beam of microwave energy as it rotates to a 360° pattern. When the transmitted energy contacts a target, some of that energy is reflected back to the radar.

### Caution:

- a. The marine radar transmits microwave energy that has the potential to be harmful to humans and animals. Before beginning radar transmission, verify that the area around the radar is clear. The radar transmits a beam approximately 12° above and below a line extending horizontally from the center of the radar.
- b. When the radar is transmitting, do not look directly at the antenna at close range; eyes are the most sensitive part of the body to electromagnetic energy.

Reading and interpreting the radar display takes practice. The radar overlay feature can help you interpret the radar display more easily, because it overlays the radar returns on top of the chart. This can help you identify the difference between a radar return of a land mass, bridge, or rain cloud. Showing the AIS vessels on the radar overlay can also help you identify features on the radar display. See the Owner's Manual for more on reading the radar and on:

- a. Adjusting the Radar Range
- b. Optimizing the Radar Display
- c. Echo Trails

## 3. SONAR

The chartplotter can be used as a fishfinder. There are four basic styles of sonar views available: a full-screen view, a split-screen view that combines two or more views, a split-zoom view, and a split-frequency view that displays two different frequencies.

#### 4. AUTOPILOT

The Garmin combination unit provides the Autopilot feature along with the separate Autopilot readout on the main dashboard (*See photo* on page 17 for location of readout). At the bottom of the separate autopilot display is the rudder angle indicator. (*See photo* in Section 3 "Getting Underway".) At the upper left is your Actual Heading. At the upper right is your Intended heading (heading the autopilot is steering toward). The very large main readout is your Actual heading (when in standby mode) and your Intended heading (when engaged).

The digital compass for the auto pilot is located near the starboard drawers under the berth. Placing anything steel, iron, or magnetic in this area can cause the auto pilot to not work properly. This compass also feeds the boat's current heading to the chart plotter, so something like an electric toothbrush or cell phone placed near this compass can cause both the auto pilot and chart plotter problems.

The autopilot has on (Engage) and off (Standby) modes. When you engage the autopilot, the autopilot takes control of the helm and steers the boat to maintain your heading. From any screen, select Engage. Your intended heading shows in the center of the Autopilot screen. The heading can be changed by selecting or holding the outer button:

- a. Select <1° or 1°> to initiate a single 1° turn.
- b. Select <<10° or 10°>> to initiate a single 10° turn.
- c. Hold <1° or 1°> to initiate a rate-controlled turn. The boat continues to turn until you let go of the key.
- d. Hold <<10° or 10°>> to initiate a sequence of 10° turns.

#### D. DEPTH SOUNDER

The digital depth sounder will not give accurate readings beyond 400' (*See photo* on page 17 for depth sounder panel location). In deeper water, the sensitivity on the unit increases as the transducer tries to get some reading back. Consequently, you will receive many false readings caused by currents, changes in water temperature, fish, and seaweed. Use the depth sounder only as an aid to navigation in shallow water.

**IMPORTANT:** The key to avoiding rocks is NOT the depth sounder—but knowing where you are at all times. (Rocks are the greatest navigational and safety hazard in the islands—but they are all clearly marked on the charts.)

*We do not recommend using the depth sounder's alarm during night. Besides a fairly high battery drain, it's likely to sound at inappropriate times such as late at night while fish are passing beneath the transducer. Instead, consult the onboard tide data to determine whether you're anchored in a safe location, considering how shallow your depth will become when the tide ebbs out of your anchorage in the middle of the night. Also, consider downloading and using an app on your smart phone such as "Drag Queen" to monitor your position through the night.*

#### E. KNOTMETER. Speed is indicated in knots or nautical miles per hour. (For comparison, 7 knots is approx. 8 statute mph.) *See photo* on page 17 for knotmeter panel location

If the digital knotmeter shows a reading of "0.00" while underway, the knotmeter impeller is most likely clogged with a piece of eelgrass. Sometimes it will float off overnight. You can also try removing it by traveling for a short distance in reverse. The impeller is located beneath the access port in the forward head

shower pan. (It's not recommended that you try to remove the impeller to clear it, unless you are VERY experienced in such things. An open hole in the hull is a scary situation, and if not plugged quickly, it can jeopardize the boat and the safety of your crew.) If the knotmeter is temporarily "out of service," the GPS input to the chart plotter provides an alternate and quite accurate speed indication called SOG (speed over ground).

**F. WIND INDICATOR.** The wind instrument is located above the helm on the ceiling dashboard. It reads the apparent wind, so boat direction and speed must be taken into account.

## **G. VHF RADIO**

The VHF radio is a Standard Horizon Eclipse GX1300 and is located above the helm on the ceiling dashboard. Radio manual is located under the pilot seat.

- The radio can broadcast on either high or low power. The power level is toggled between high (25W) and low (1W) using the H/L button. It is recommended that you use the Low transmit power when making non-emergency calls to nearby vessels or ports, and you may need the higher level at other times. The radio automatically changes to High when switching to 16.
- When the 16/S quick channel change button is pressed, the radio quickly switches to channel 16. When pressed again, it will return to the original channel.
- Weather channels—There are three unlabeled "soft keys" near the bottom of the radio. Press any of these keys to bring up a menu of additional options. Press the key associated with the "WX" to switch between the regular channels (CH) and the weather channels (WX). Use the up/down buttons to change between weather channels. To return to regular channels, press any soft key and select CH. Other options can be accessed (after pressing a soft key) by using the left/right arrows. Refer to the U.S. and Canadian weather channel listings in the Charter Guest Reference Manual binder located on board, section 7, VHF Procedures & Weather Reporting.
- Adjust the volume by turning the VOL knob clockwise (louder) or counter-clockwise (quieter).
- The radio has a "squelch" level control. Squelch is technically a noise gate to cut the ever-present background radio noise generated by atmospheric activity and man-made sources. Increasing the squelch level acts as a mute to the radio when there is nothing transmitting and only turns the speaker on when a transmission comes through. Adjusting SQL knob clockwise, sets the point at which random noise on the channel does not activate the audio circuits but a received signal will. This point is called the squelch threshold. Further adjustment of the squelch control will degrade reception of wanted transmissions.
- International & U.S. channel modes – the unit should default to U.S. channels, but sometimes gets changed to International so to return to US mode:
  1. Press the MENU key to display the menu.
  2. Select "SETUP" with the ▲ / ▼ / ► / ◀ keys, then press the SELECT soft key.
  3. Press the ▲ / ▼ key to select " CHANNEL SETUP", then press the SELECT soft key.
  4. Press the ▲ / ▼ key to select " CHANNEL GROUP", then press the SELECT soft key.
  5. Press the ▲ / ▼ key to select desired channel group "USA", "INTL", or "CAN".
  6. Press the ENTER soft key to store the selected setting.
  7. Press the BACK soft key to exit the menu.



- Favorites channel lists – 10 preset favorite channels can be programmed for instant access. Pressing the PRESET soft key activates the preset channel bank. If the PRESET soft key is pressed and no channels have been assigned, an alert beep will be emitted. If the radio happens to be set to PRESET mode, then scrolling thru the channels will only show those preset channels. To view all channels, press soft key and return to CH.
- The VHF radio is capable of setting up and using a dual watch or multiple channel scanning. Typical use would be monitoring 16 and a working channel (i.e. 68, 69, 71 & 72) to make marine-related communications with a companion vessel or flotilla group. To set a Dual Watch, use the up/down arrows to go to the working channel. Then press any soft key and select DW for Dual Watch. When monitoring the working channel with Dual Watch enabled, "D-16" should appear in the upper left of the VHF screen. When a transmission is received on the channel 16, it gets priority and the radio will remain on 16 for the duration of the broadcast(s). After/between channel 16 broadcasts, the radio returns to monitoring the selected working channel. To stop the Dual Watch feature and return to normal operation, press a soft key and select DW.

There is also a handheld unit on the chart table that is both a backup to the primary unit, and is recommended when operating the dinghy to stay in touch with *Island Time*, or call for assistance if needed.

*To listen to the weather reports (should be done in the morning before you head out and ½ hour before your final destination), push the "WX" button on the radio. Channel 4 or 7 are best for the San Juan Islands region. Listen for the "inland waters of western Washington" or "Strait of Georgia—Southern Sections". This covers the San Juan Islands and the Canadian Gulf Islands. You will also hear "Strait of Juan de Fuca" (south of the San Juans), "Georgia Strait" (north), and "Rosario Strait" (runs through the eastern part of the San Juans).*

*You should monitor channel 16 (the hailing and distress channel) during your cruise. You may save a vessel or a life. You may hail vessels on channel 16, but after establishing contact on channel 16, ask the skipper of the other boat to switch to working channels 68, 69 or 78. San Juan Sailing monitors channel 80 during office hours (closed Sundays). If you need a review of VHF radio protocol, you'll find information located in the onboard Charter Guest Reference Notebook. (By phone you can reach the San Juan Sailing office at 360-671-4300 or 800-677-7245).*



## H. ENTERTAINMENT PACKAGE

*Island Time* is equipped with an entertainment package consisting of a Fusion Marine DVD Stereo system and a 22" Samsung HD TV in the salon, along with a Westinghouse combination TV/DVD player in the forward berth.

### 1. Play DVD in salon:

- a. Turn on "Entertainment System" breaker on DC distribution panel and "AC Outlets" on the distribution panel (must be connected to shore power or running generator).
- b. Facing the Fusion stereo, press latch on top of unit to open the front, then (press eject to remove DVD if one still in player) and put in a DVD.
- c. Turn on the TV and set the Source to AV using the Samsung TV Remote.
- d. Set the Fusion stereo deck to DVD using the "arrow in a circle" button.
- f. Press PLAY on the Fusion remote or the Fusion Deck.

### 2.. Play DVD in forward berth:

- a. Turn on "Entertainment System" breaker on DC distribution panel and "AC Outlets" on the distribution panel (must be connected to shore power or running generator).
- b. Turn the TV on and select DVD as the TV input.

- c. Facing the TV, insert the DVD in the vertical slot on the right edge of the TV with the printed label side facing the back. (The TV also has markings telling you which way the DVD should face.)
  - d. To remove the disc, press the OPEN/CLOSE button and the disc will eject.
3. Bluetooth, Aux Jack, DVD, CD or AM/FM Radio:
- a. Turn on the Fusion Deck using the on/off button on the lower left of the deck.
  - b. Use the "arrow in a circle" button (*See photo next page*) to select:
    - i. SiriusXM
    - ii. AUX1 (for 3.5mm aux jack)
    - iii. AUX2 (unassigned)
    - iv. DVD/CD
    - v. BT (For Bluetooth)
    - vi. AM Radio when near shore (by scrolling to next page)
    - vii. FM Radio when near shore (by scrolling to next page)
  - c. To pair phone using Bluetooth:
    - i. Press the "Page" button on upper left and select "Discoverable" (*See photo above*).
    - ii. Enable Bluetooth on your device.
    - iii. Look for "IT Stereo" (*Island Time Stereo*) and select.
    - iv. There may be a delay, but if this process doesn't work the first time, repeat.
    - v. There can be only one active bluetooth synced with the Fusion. If two users are present at the same time, you may need to deselect one user. The active user should have a full circle to the right of their name, all others should have an empty circle. It may also be necessary to unselect or remove previous users so that their circle goes empty.
  - d. To insert the DVD or CD, face the Fusion stereo, press latch on top of unit to open the front, then (press eject to remove disc if one is still in player) and put in a disc.
4. Sirius/XM Satellite Radio
- a. Use the "arrow in a circle" button to select SiriusXM Satellite Radio.
  - b. Seattle Mariners fans may find games on/near channel MLB 183.
  - c. UW Husky fans may find games on/near channel 99 or 107.
5. Remotes:
- a. Fusion Remote
    - i. Point at the Fusion Deck
    - ii. Controls DVD, CD, Bluetooth, SiriusXM Radio, AM/FM and AUX (MP3) volume, start/stop/pause etc
  - b. Samsung/LG TV Remotes:
    - i. Must be pointed at the TV, self explanatory functions
    - ii. Use to set TV to AV1 for DVD Player. Will control TV volume during DVD

## 9. FUEL

*Island Time* has two (2) diesel fuel tanks located on the port and starboard sides of the tank room, under the salon. Each fuel tank holds 200 gallons. At Economic Cruise using 80% of the total tank capacity should take approximately 150 run hours and 1,100 nautical miles depending on weather, currents and other factors. Do not use these statistics for monitoring fuel—always use monitoring methods described below.

### A. MANAGING FUEL CONSUMPTION AND MONITORING FUEL LEVELS

*Island Time* fuel tanks will be full upon your departure. Unless extended cruising is expected, you shouldn't have to worry about how much fuel is onboard. However, it is a good practice to measure fuel usage on a daily basis to track your overall consumption. If your fuel level drops to below 25% full (100 gallons), you should stop to refuel. Following are the procedures for measuring fuel level as well as daily tracking of fuel consumption:

#### 1. Measuring Fuel Level:

- a. The most accurate means to measure fuel levels is through the sight gages installed on each fuel tank. The fuel tanks are located in the "tank locker" which is accessible under the floor hatch in the main salon. The fuel tanks are outboard of the battery boxes. Each fuel tank has a sight gauge mounted on the aft portion of the tank. Each sight gauge has a valve (cock) at the top and bottom of each gauge. Use a flashlight when checking these gauge levels. To check fuel level, open top and bottom gauge valve. **Should the fuel level be below the bottom of the sight gauges, it is time to add fuel!** After checking level, **close top and bottom gauge valves on both tanks** (so that any damage to the gauge will not result in fuel spillage into the boat).
- b. Fuel level can also be measured at the monitoring panel. This method of monitoring fuel is fine for most situations, but the levels are just approximate and may fluctuate. The Monitor Panel is located on the port side of the helm station. Turn the monitoring panel on and use the up/down arrow keys to cycle through the various tank positions. The LCD display provides a visual indicator of fuel remaining. The panel will also indicate the fresh water tank level. See Section 10. Please note the panel may also indicate an empty sanitation tank but this is inaccurate. Please see Section 12C.

### B. FILLING THE FUEL TANKS

Fuel should be added as needed on extended cruise and upon return to the fuel dock in Squalicum harbor at the end of your journey. The "deck key" to open the filler ports is located in the chart table in the pilot house.

1. Although the port and starboard tanks have a small equalization line between them, both tanks need to be filled whenever fueling.
2. OPEN FILLER CAP(S) located on the port and starboard side decks just forward of the cockpit (push down on the filler cap, which will pop up, and can be twisted off by hand). On the starboard side the water filler cap is next to the diesel fill cap.
  - a. **MAKE SURE YOU HAVE THE RIGHT FUEL! DIESEL! DIESEL! DIESEL!**
  - b. **MAKE SURE IT IS GOING INTO THE RIGHT DECK FILL! DOUBLE-CHECK!**
  - c. **Do not fill starboard side fuel and water at the same time!! Cross contamination is very likely.**

**Warning:** both tanks will “blow back” significantly when fuel reaches the top of the tank with the fuel nozzle at full flow. if possible, have someone watch the fuel tank sight glasses as described above and give the fueler feedback. Always listen carefully as tank fills, slow the fuel fill rate once you hear the pitch rise indicating a nearly full tank.

3. Before pumping, have an oil/fuel sorbs handy to soak up spilled fuel. You should have a rough idea of the number of gallons you will need if you have been monitoring engine hours (below rpm) and fuel consumption on a daily basis. It is also a good idea to have someone watch the port and starboard sight glasses on the tanks (located under the hatch in the salon) as each tank is filled (do not rely on the tank monitoring gage in the pilothouse. It may not be accurate). Be sure to have the “gage cocks” at the top and bottom of each sight glass open while fueling and closed at all other times. It takes approximately 20 gallons to move the level in the sight glass one inch. There is a blue tape with 50 to 200 gallon markings on the hull near each fuel sight glass—this can be used to approximate tank fuel levels.
4. Before you start to fuel, make sure the engine is shut down, the furnace is off, and all ignition materials have been extinguished. Everyone except the person monitoring the starboard sight should be off the boat.
5. Place the DIESEL nozzle into the tank opening, pump slowly and evenly, and note the sound of the fuel flow. Pumping too fast may not allow enough time for air to escape, which may result in spouting from the tank opening. As the tank fills, the sound will rise in pitch or gurgle. Pay attention to the TANK OVERFLOW VENT on the outside of the hull near the tank opening. The sound may indicate that the tank is nearly full. Note: Port and Starboard tanks are interconnected, but must be filled independently because the exchange flow between the tanks is too slow. Top off carefully, and be prepared to catch spilled fuel. Spillage may result in a nasty fine from law enforcement.
6. When fueling is complete, remove the nozzle from the fill port, **immediately screw the fill cap back in place to ensure no contaminants get into the tank.** Use the same procedure for the opposite fuel tank. Wash hands with soap and water thoroughly.

## 10. WATER

There is a 150 gallon fresh water tank on *Island Time*. The tank is located in the aft section of the tank room. The tank room is accessed through the floor hatch in the salon. The cold water in galley sink and the ice maker are filtered via an activated charcoal filter—all other water (galley hot water, all water in head) are unfiltered.

### A. CHECKING THE WATER LEVEL/Refilling Water Tank

1. **Observe the water** level by use of the tank monitoring system with a read-out panel at the forward edge of the Navigation Table in the Pilothouse and/or by the sight glass on the tank (located under the hatch in the Salon) which is more accurate.
2. To refill the tank,
  - a. Remove the WATER CAP located on the starboard side deck just forward of the cockpit (push down on the cap, which will pop up, and can be twisted off by hand). Avoid flushing debris from the deck into the tank opening. **DO NOT FILL WATER AND DIESEL AT THE SAME TIME!**
  - b. Connect the fresh water hose (located in the lazarette under the cockpit) to the domestic water supply at the dock. Let the water run through the hose (overboard) for a minute or two to wash any contaminated water from the hose. **DO NOT USE THE HOSE AT THE DOCK TO FILL THE WATER TANK—YOU DON'T KNOW WHERE IT HAS BEEN.**
  - c. Fill until the filling sound starts to increase or water comes out the Vent/overflow on the hull just below the deck fill.
  - d. Tighten the deck plate and re-stow the clean water hose in the lazarette.

### B. HOT WATER TANK

The HOT WATER HEATER has an 11 gallon capacity tank and is available when connected to shore power, the generator or via a heat exchanger with the engine when underway. To use on shore power or with the generator in operation, flip on the water heater circuit breaker on the AC electrical panel. **Do not use the water heater if the water tank level is very low. Please note that the engine water temperature is quite high so that the hot water tank temperature can exceed the normal 120 degrees we find in our homes. Use hot water carefully after using the engine heat exchanger to prevent scalding.** The water heater tank is located in the port-side engine room.

### C. SHOWER

The shower sump pump breaker on the DC panel should always be ON. The sump pump turns on automatically when shower water fills the sump. It generally a good idea to take short “boat showers”. To keep shower tidy wipe down the shower stall and floor. Check for accumulation of ° in the shower and sink drains. An optional hand-held FRESH WATER SHOWER with hot and cold water is located in the cockpit. Ensure that the faucets and nozzle are completely off after use.

**Note:** Should the shower begin to drain slowly, it is probably because the filter in shower sump reservoir has become clogged. The shower sump is located beneath the hatch in the bathroom floor. There is a plastic enclosure covering the sump. It can be easily removed (4 screws) and the sump and filter and cleaned. Please be sure the filter is replaced and secure before reassembly.

## 11. BOAT ELECTRICAL AND GENERATOR

Island Time is equipped with multiple power outlets in virtually every space. Many of these are conventional 120 V outlets like you would find in your house. In addition, there are 12 VDC USB-B outlets on each side of the berth; and 12 VDC "cigarette lighter" outlets at the helm and in the salon. The USB-B outlets can be used to charge electronics requiring the older style USB plugs. Newer electronics requiring the newer USB plugs can use the 120 V outlets—or the 12 VDC "cigarette lighter" outlets with a (guest provided) adapter. In general, 120V power will be available only while connected to shore power or while the generator is running; 12 VDC should be available during these times and while the main engine is running. With the increased use of CPAP machines, the 12 VDC or the 120V outlets can be made available for this small use throughout the night—see C. INVERTER/BATTERY CHARGER section following.



The electrical system is divided into 4 distribution systems: 120V AC panel, 12V DC panel, the solar monitor, and the Magnum Energy charger/inverter monitor/controller (See photos previous page). The breaker panels are located behind the smoked Plexiglas door to the left of and below the helm – two 120V AC panels and three 12V DC panels. The solar monitor and Magnum units are located in the pilothouse just below the forward center window.

When not connected to shore power and the main engine or the generator are not running, the house battery bank is providing all power, and the lights on the Magnum unit should be off. Therefore, monitor the use of onboard electricity carefully (more on that below) and turn off electrical devices that are not needed. **When not connected to shore power and using high 120V loads (coffee pot, microwave, hair dryer, vacuum, etc.), start generator prior to use whenever possible.**

## A. GENERATOR

Island Time has a 6KW Northern Lights generator. This will provide approximately 50 amps of charging— more than the shore power system can provide. The generator consumes approximately 0.75 gallons/hour of diesel fuel. You will likely not need to use it if you are connected to shore power or using the engine several hours a day, however, it is helpful to run the generator for an hour or so every few days if convenient to do so without disturbing any other nearby boaters. Running the generator every few days will also charge the generator battery. When connected to shore power, the generator batter is charged via a dedicated “trickle charger”. Before starting the GENERATOR, first check the following vitals:



1. Perform a visual check of floor inside generator casing for signs of oil leaks. Guests should not use dipstick to check for oil leaks in the generator (port side access hatch). Exceptions to this are Saturday mornings of multi-week trips. After each week of multi-week trips, carefully unscrew (counter clockwise) dipstick handle, check oil level is between the hash marks. If the oil level is low (below the bottom mark), add oil from blue plastic jug using the oil funnel. DO NOT OVERFILL THE OIL CAPACITY of the engine— do not fill above top mark on the dip stick. When replacing the dip stick ensure it is properly seated. If not seated, oil will spray out making a mess.
2. Coolant reservoir level.
3. Small RACOR fuel filter for water or debris. If water/debris found, address as noted in Section 3 Preparing for Departure.
4. Raw water intake seacock (located below the RACOR fuel filters) is open.
5. Raw water outlet seacock (located on the outboard side of the generator just forward of the aft bulkhead) is normally left open.

**Note** that when this seacock is open, the generator cooling water is being discharged below the waterline and is difficult to see and can't be heard. When the sea cock is closed, the raw water discharges through the exhaust port which is above the waterline directly above the seacock. The discharge will then of course be visible and audible. Therefore the below waterline discharge (seacock open) is the quieter option for running the generator when not underway. When running the generator while underway, having the cooling water discharge below the waterline (outlet seacock OPEN) can sometimes create a non-damaging pulsing vibration that can be felt through the hull. Some folks find this to be disturbing. Note that



*is does not harm the boat or generator. If you find the pulsing annoying then close the OUTLET seacock to make the cooling water exit along with the exhaust above the waterline.*

The generator controls are located at the top of the salon/pilothouse stairs low down on the port side. (See photo opposite).

Before starting the generator, make sure the Shore 1 AC breaker is OFF and you have performed the pre-start checklist (Section 2, Engine Room Checks, of these notes).

At the control panel, push and hold the rocker switch to pre-heat the generator for 15 seconds. While continuing to hold down the pre-heat rocker switch, push the START end of the Generator Control rocker switch. The Generator should start. See manual to add more details.

Let the generator warm up for about two minutes. Then at the AC panel, move the sliding protector covering the Generator 1 breaker up to cover the Shore 1 breaker and flip ON the Generator 1 breaker (note that the Shore 1 breaker green light will turn on as well as the Generator 1 green light—this is normal). Then turn on AC systems as you would on shore power one system at a time. Monitor your current usage.

To turn the generator off, first take off the load by turning off AC breakers. Then turn off the Generator 1 breaker. Let the generator idle for 2 minutes, before shutting it down by pushing the STOP end of the Generator Control rocker switch.

## **B. 12-VOLT SYSTEM (DC SYSTEM AND BATTERY SYSTEM)**

Three battery banks support 12-volt DC power: 1) Main Engine start battery 2) house battery bank 3) generator start battery

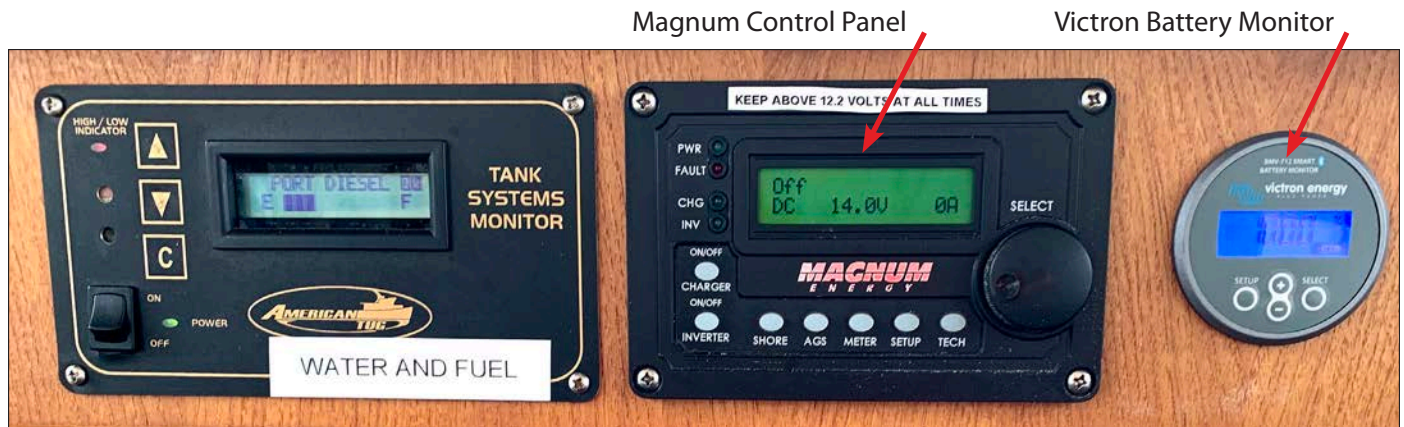
The BATTERY SWITCHES are located on the port side of the cabinet below the starboard-side helm seat. (See photo in Section 2: "Preparing for Departure.") The "DC Main" toggle switch is normally left in the "On" position and supplies power to the DC Panel.

The rotary switch below the DC Main, farthest forward (left) is the "Starting Battery Switch" for the Main Engine. It is normally left in the "On" position unless there should be a fire in the engine room or a battery problem. **Except in an emergency, do not change this switch while the engine is running.** Alternator damage will result, which may affect operation of the vessel.

The "Battery Parallel" rotary switch is normally left in the "Off" position. This switch should only be used to combine the Main Engine Start and House Batteries as a last recourse to provide additional cranking power to start the Main Engine. To the right is the "Constant 12 Volt Breaker". This breaker provides power to the Fuse Block located under the console in the Pilothouse, which supplies power to the Bilge Pumps, Propane Sniffer Systems, Tank Monitor Panel and Defroster. **It should be left in the "On" position at all times.**

To the right (aft) of the two rotary switches is an Emergency Battery Disconnect switch. It remotely controls a battery switch in the engine compartment that shuts off all power from the house bank in the case of an emergency (such as a fire in the mid bilge where the batteries are located). This is a life safety feature and **should only be used in an emergency** by sliding the cover to the right (aftward) and depressing the exposed switch. If the engine is running, it should be turned off before using the emergency battery disconnect switch, if it is safe to do so. Like the Starting Battery Switch, the emergency battery disconnect may cause alternator diode damage if used while the engine is running; which may affect boat operability.

House Battery Bank: Three AGM 4D batteries supply House Power. These were replaced in 2022 with three Lifeline GPL-4DL AGM batteries with a combined total nameplate of 630 amp-hour capacity, 283 amp-hours of this useable. The 12 volt panel shows all the systems supported by the House Battery Bank with the exception of those on the Constant 12 Volt Breaker mentioned above. This includes the Engine Room lights, wash-down



pump, and Navigation Lights (all controlled with rocker switches at the console), the Inverter and the Diesel Heater, bilge pumps, CO Detector and Propane Sniffer. Primarily you will be turning on the panel breakers for your lights, water pressure, electronics, autopilot, refrigerator, toilet, wipers and 12 Volt outlets.

**Console rocker switches for the Bilge pumps should always be left on.**

Main Engine Start Battery: An AGM 4D battery provides power to start the Main Engine.

Generator Start Battery: A Group 24 battery supplies power to start the Generator.

**C. INVERTER/BATTERY CHARGER**

Island Time is equipped with an “after market” combined Inverter/Battery Charger unit which is controlled by the Magnum control panel located in the pilothouse below the forward center window. (See photo above.) When connected to shore power or when the generator is running (and the inverter circuit breaker in ON), the unit acts as a charger for Island Time’s start and house batteries. When disconnected from these AC power sources, the unit’s Inverter can convert 12V DC house battery power to 110V AC power to the microwave and to the AC outlets on board. The inverter does not provide AC power to the water heater or the electrical heating units. Since the relative quantity of the high voltage to low voltage is so great, even a small use of the inverter can quickly drain the house batteries. Therefore, running the microwave, ice maker, hair dryers, toaster, coffeepots, etc. should only be done while connected to shore power or when running the generator. However, these loads can be run using the inverter function—they will quickly discharge the house/inverter batteries and should be run off the inverter VERY SPARINGLY! Monitor your battery usage very carefully! Also, note that the inverter has a 2,000 watt (approx. 18 amps at 110 volts) capacity governing maximum connected load.

One appropriate load that may be run off of the inverter is the small trickle load drawn by guests’ CPAP (Continuous Positive Airway Pressure) machines used to treat sleep apnea. While anchored or tied to a buoy, the inverter function may be the best way to handle the small load from CPAPs without running a generator all night. At the beginning of the 2022 season, several batteries were replaced and some wiring altered to improve battery performance. Following the changes, the boat’s house batteries were able to support running one CPAP machine without heating or humidification, (with the refrigerator and the anchor lights) for 8 hours while remaining above the 55% “must recharge” level (See following page). Your actual voltage level drop may be different depending on the number and type of CPAPs, whether heated humidifiers and/or heated tubes are disabled, and other factors. Of course, another method to reduce boat battery usage with a CPAP is to bring travel CPAP battery(ies) that are used during the night and recharged during the day. And finally another strategy for conserving boat batteries during the night is to turn off the refrigerator at night and restart in the morning. Battery bank charge level should be monitored through the first night to assure the level does not

drop below the recharge level described in the following page, and checked at the end of every subsequent night using the inverter. After each night's use of the inverter, the house batteries should be fully recharged by cruising, solar charging and/or generator use. Of course, if shore power is available, it is a far better choice for powering CPAPs and all other electrical loads.

#### **D. SOLAR PANELS AND CHARGING**

In 2022, *Island Time* joined the 30% of the fleet with solar panels with the addition of a 430W solar panel along with a Victron solar charger 100/30 and Victron battery monitor BMV 712. The solar panel can provide 430W to the house battery system during the peak time/month of the year, and will vary during other times of the day/year. The performance of the solar and house batteries can be view on the Victron battery monitor mounted on the dash next to the magnum inverter/charger display (*See photo* previous page). The most useful screen on the battery monitor is the "State of Charge" of the house battery bank, and it is recommended that the monitor displays this "SOC" screen continuously throughout your charter. This screen displays the amount of energy remaining in the house battery bank as a percentage of the bank total capacity. When the house batteries are fully charged, the monitor SOC screen will read 100%. As the batteries are discharged (when lights, refrigerator, etc are on), the percentage may drop. That battery discharge will be offset somewhat by the solar panel input during daylight hours, and the SOC percentage display will indicate the net of the battery discharge and solar input. AGM batteries can be damaged if the SOC drops too low, so if the monitor drops to 55%, the batteries need to be recharged – either by generator or by connection to dock power if available. An alarm should sound at the 55% level, but please do not wait for the alarm before running the generator or connecting to dock power. The battery monitor can also provide other pieces of information using the up/down arrows, but please always return the screen to SOC after viewing:

- current going in/out of the house bank
- voltage of house battery
- voltage of start battery
- consumed house battery energy in amp-hours

The HOUSE BATTERY BANK provides power for all DC systems, except the engines and other systems noted above. When disconnected from shore power, all 12-volt devices drain the house battery. Use devices only as needed. The DC voltmeter on the DC panel can be switched between 1) Main Engine Start, 2) House Battery Bank and 3) Generator Start Battery to measure charging or resting battery voltages.

#### **E. BATTERY STATE AND CHARGING**

The HOUSE BATTERY BANK provides power for all DC systems, except the engines and other systems noted above. When disconnected from shore power, all 12-volt devices drain the house battery. Use devices only as needed. The DC voltmeter on the DC panel can be switched between 1) Main Engine Start, 2) House Battery Bank and 3) Generator Start Battery to measure charging or resting battery voltages.

The Main Engine Start and House Batteries are charged by the engine ALTERNATOR while underway. The Main Engine Start and House Batteries are charged by the BATTERY CHARGER when connected to Shore Power or to the Generator. Ensure the Charger/Inverter circuit breaker at the 120V panel is flipped ON.

The Generator Start Battery is charged directly by the Generator when the Generator is in use. On Shore Power, the Generator Start Battery can be charged by the Battery Charger if necessary after a long period

of inactivity. The Gen Battery Charger breaker (labeled "Battery Charger 2" and marked with a green dot) on the AC panel should normally be kept in the "On" position and the gen battery charger will operate if needed while connected to shore power.

When a battery bank is being charged, the voltage at the DC voltmeter on the DC panel will read from about 13.1 volts to 14.4 volts depending upon state-of-charge of the battery bank. When the battery bank is at rest, (that is, not being charged), the voltmeter can give a rough indication of the state-of-charge of the battery bank. As mentioned in the section above though, the best indication of the house battery bank's State of Charge is via the Victron monitor.

#### **F. APPROXIMATE VOLTAGE/BATTERY STATE**

12.8 volts 100%

12.4 volts 75%

12.2 volts 60%—**Recharge at 60% or battery damage could occur.**

11.8 volts 25%

11.6 volts 0%

## 12. HEAD

*Island Time* has one bathroom with a toilet commonly referred to as a head in the marine world. The bathroom also has an enclosed shower, vanity, and sink. The head uses a VACUFLUSH freshwater system, which helps to eliminate odors often emanating from salt-water toilets. The VACUFLUSH system flushes into a 45-gallon holding tank. The head is the only thing that discharges to the wastewater holding tank; all other sinks and shower discharges go to the sea. The holding tank can be emptied at a pump-out station, or can be pumped overboard through a macerator pump, and a seacock in the bottom of the hull, (if you are in a legal zone to do so).

### A. USING THE HEAD

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

*Island Time* has an electrically operated fresh water VacuFlush toilet. To use the toilet, lift the foot pedal to add water to the bowl as necessary. After using the toilet, to flush, press down sharply on the foot pedal to initiate the vacuum action until contents clear the bowl. A sharp popping noise is heard when the vacuum seal is broken and the flushing action begins. Hold the foot pedal down for 3 seconds to ensure complete flushing action. As desired, lift the foot pedal quickly to reseal properly and to wet the bowl again. Clean the toilet as necessary.

**Caution—DO NOT PUT ANYTHING DOWN THE HEAD THAT HAS NOT BEEN EATEN FIRST.** Never put paper toilet paper (not even marine toilet paper), towels, tampons, Kleenex, sanitary napkins, or food into the marine toilet. All toilet paper goes in the lined wastebasket. A plugged up waste system can ruin an otherwise great cruise. The cabinets in the head have several replacement wastebasket liners—use them to hold all used toilet paper.

### B. CLEANING THE HEAD

There is a toilet brush in the cabinet under the sink. Use liquid dish washing soap and water for everyday cleaning of the toilet bowl. Never use chlorine based cleaners, caustic cleaners, chemicals, drain openers, alcohol, solvents, etc. in the system.

### C. HOLDING TANK

The sanitation HOLDING TANK holds approximately 46 gallons. Be aware of the rate of waste production. (about 1-1.5 pints per flush). With an overfilled tank, it is possible to break a hose, clog a vent, or burst the tank. The result will be an indescribable catastrophe and an EXPENSIVE FIX. Empty the tank EVERY OTHER DAY to avoid this problem.

The HOLDING TANK is located under the Stateroom floor. It can be inspected via the hatch in the Head compartment, and may be given a visual check with a flashlight or the “watermelon” test by thumping it. There is also a tank monitor system with a read-out panel in the Garmin chartplotter: Press Home at bottom, select the

***The tank's contents can be discharged with the MACERATOR only where it is legal to do so. In the US, this is 3 miles or more from US shores (Canadian rules differ however). Confirm that through-hull seacock located in the starboard-side engine room at the forward bulkhead is OPEN. Note by Coast Guard regulation this through-hull must remain closed unless a pump-out is taking place where legal to do so.***

Vessel icon in the main portion of the screen.  
The Garmin black water level is only approximate and should not be relied on as the tank gets full.

#### D. EMPTYING THE HOLDING TANK:

The holding tank is emptied in one of two ways:

1. At the Marine Pump-Out Station:

- a. Remove the WASTE CAP located on the port side deck just forward of the Pilothouse door (push down on the cap, which will pop up, and can be twisted off by hand).
- b. Insert the pump-out nozzle into the waste opening. Double-check your deck fitting!
- c. Turn on pump and open valve located on handle.
- d. When pumping is finished (will now be sucking mostly air with a little water), close lever on handle and turn off pump. Remove from deck fitting.
- e. If there is a fresh water hose on the dock, rinse the tank by adding 2 minutes of water into tank. **DO NOT USE Island Time's WHITE FRESH WATER HOSE.**
- f. Then re-pump the tank. This also eliminates head odors.
- g. Replace the WASTE CAP and tighten
- h. Wipe up any spills on the deck and throw away the used disposable gloves and wipe up rags.
- j. Wash down the fill area on the boat with the fresh water hose.

2. Discharging the Holding Tank Overboard using the macerator.

- a. Open the Holding tank discharge seacock (located in starboard engine room, forward bulkhead). Remove Macerator key from its place on the discharge seacock.
- b. Insert the key into the Macerator key switch on the console (in front of the shifter/throttle).
- c. Turn the key to begin pumping. The indicator light will illuminate. Use the tank monitoring system and listen for a change in pump motor pitch as the tank empties. It should only take a few minutes to empty the tank.
- d. When finished, turn off the key to stop the macerator pump, close the overboard through-hull seacock (located in starboard side of the engine room at the bottom the access ladder), re-hang key on seacock.



## 13. DECK WASH

There are two sea water deck wash hose connections: one on the bow on the port side of the windlass and one aft in the cockpit on the port side under the shore power cord connections. The hose and spray nozzle for the bow wash is located in the storage box in front of the cabin top. Do not use bow wash for cleaning anything but the anchor. The stern wash hose and nozzle are in the cockpit in the small compartment on the port side of the sink cabinet (along with the fire extinguisher).

Using the Deck Wash:

- A. Open the seawater seacock**, located in the starboard side of the engine room at the forward bulkhead.
- B. Push the blue hose adapter** approximately ½" into the hose connection while twisting ¼ turn clockwise. Gently try to pull the adapter back out to ensure that it's properly seated. Make sure the spray nozzle is connected and OFF.
- C. Turn on the SEAWATER WASHDOWN** switch at the helm station next to the thruster control. Seawater should pressurize the hose—immediately check for leaks. Use the spray nozzle to clean the anchor and chain as it comes out of the water. It is best to spray water on the chain before it gets to the roller so that mud and other debris washes back to the sea and not onto the deck or in the chain locker.

## 14. GALLEY

### A. STOVE

To operate the stove:

1. Check the propane tank hand valve is open. (Tank is located in the propane locker in the aft cockpit starboard side of the salon door, right side of the sink.)
2. Turn on the propane solenoid (electric) valve by pressing the button on the propane monitor panel, just inside the salon door starboard side on the cabinet (above the magazine rack; *see photo* next page). The solenoid valve ON/OFF is the left most button on the panel. *Note:* the circuit breaker for the propane panel is to the right of the battery switches below the helm seat and should always be ON.
3. Propane should now be available to the stovetop and oven.
4. The stove and oven burners are equipped with auto igniters (sparkers). To light, push, hold-in and turn the knob counter



clockwise to LIGHT (or 200deg for oven) until the burner lights (keep knob pushed-in for 5 seconds so the pizo valve warms and remains open). If the burner doesn't light right away there may be air in the gas lines in which case you'll have continue holding in the knob until propane reaches the burner and lights. To light the broiler, push and hold the oven knob and turn clockwise to 2 o'clock position.

5. After use and each night, close propane solenoid valve.

## B. NON-STICK COOKWARE

1. Do not use nonstick cooking sprays on the nonstick cookware—an invisible buildup will impair the non-stick release system and food will stick in the pan. The nonstick cookware *does not need oil*. If you prefer oil for flavor, olive oil or peanut oil is recommended.
2. Use low to medium heat only. Excessive use of heat will cause pan warping and permanent nonstick coating damage. The non-stick cookware is oven safe to 350 degrees F, but never in the broiler.
3. Do not use metal or sharp-edged utensils.
4. Clean using mild dishwashing detergent and warm water. Use only nonabrasive plastic mesh pads to dislodge food particles.

Propane Monitor Panel





### C. REFRIGERATOR

Make sure the refrigerator breaker is ON at the DC Control panel in the HELM station. Temperature control knob should be approximately mid-range (3.5 out of 7). Check independent temperature gauge inside refrigerator to confirm temperature is at or below CDC's recommendation of 40°F.

### D. MICROWAVE

Make sure the Microwave is on at the AC Control panel in the HELM station. Each time power is applied to the microwave, you will need to set (or ignore) the clock. Although not recommended, if you choose to operate the 110V Microwave while not connected to shore power or running the generator, it can be operated off of the 12V system via the inverter. Please carefully read and follow Section 11C Inverter/Battery Charger before doing so, and be sure to limit use and monitor batteries carefully.

### E. ICE MAKER

When 110V power is available for an extended time, the ice maker can fill the plastic container in less than 8 hours. To make ice, turn on Ice Maker breaker, push bailer to down position in maker, turn Ice Maker thermostat fully on, then wait a couple of hours for first cubes to fall. The filled container can be placed in the refrigerator's freezer for keeping after the 110V power is not available. Although not recommended, if you choose to operate the 110V Ice Maker while not connected to shore power or running the generator, it can be operated off of the 12V system via the inverter. Please carefully read and follow Section 11C Inverter/Battery Charger before doing so, and be sure to limit use and monitor batteries carefully.

## 15. HEATING SYSTEMS

There are 3 sources of heat on *Island Time*: Diesel Forced Air system, 120V electric heaters and engine heat.

### A. ESPAR FORCED AIR DIESEL FURNACE:

The Espar thermostat/ON/OFF control is in the pilothouse below the port seat on the inboard side. (See photo below.) Simply flip the rocker switch to ON (I) and rotate the heat control dial to desired level (start midway and adjust higher or lower as needed). If furnace fan blows unheated air after a few minutes, go into the engine room, trace fuel line back to source and ensure fuel valve is open.

**Note:** The furnace burns diesel and sends heated air to various outlets in the boat. It may take a few minutes for the furnace to heat up. If you hear a whistling sound, it will likely be an outlet that has been closed down—opening the outlet will warm the space quicker and reduce whistling!

### B. Two Electric Heaters:

One is in the aft part of the salon on the port side and one in the stateroom on the port side behind the cabin door.

**Note:** Do not leave the stateroom door fully open when the heater is on as it blocks airflow and can cause the wooden door to overheat.

1. These heaters should be used only when plugged into shore power and typically when you have returned after leaving boat for an extended period of time.



2. To use the heaters, turn on the AC panel breaker labeled "Heater".
3. Each heater has a small thermostat control knob located on the front panel.

**Caution:** Do not leave anything in front of these heaters which would impede airflow while they are operating, especially something combustible.

### C. Engine Heat:

To get engine heat once the engine has warmed up, while running and for some time after engine stops, simply press the hi/lo rocker switch located above and to the port of the AC/DC panels alongside the light switches. This system sends hot water to the heating coil and fan at the bottom of the forward set of stairs, and also to the hot water heater for "free water heating". **Please note that the engine water temperature is quite high so that the hot water tank temperature can exceed the normal 120 degrees we find in our homes. Use hot water carefully after using the engine heating to prevent scalding.**

## 16. OTHER SYSTEMS

### A. CELL PHONE CHARGING

You can re-charge your cell phones at the 12V or 120V outlets. 120V outlets are available when connected to shore power or when running the generator (and the breaker is in the "on" position)—they are located in various locations throughout the vessel. 12v outlets are generally always available (and the breaker is in the "on" position)—there is one located near the stereo and others at the helm.

### B. BARBEQUE GRILL

The stainless steel propane barbeque grill is mounted on the port aft railing. It is for outdoor use only. The propane tank which serves the grill is secured in the propane locker located in the starboard aft lazarette in the cockpit.

1. To use the grill:
  - a. Remove the cover.
  - b. Make sure the regulator knob on the grill is in the OFF position.
  - c. Open the valve of the BBQ propane tank located in the propane locker in the aft cockpit starboard side of the salon door, right side of the sink.
  - d. Open the lid to the grill. Remove any accessories stored inside.
  - e. Push and turn the regulator knob counter-clockwise to the high setting.
  - f. Push the red igniter button, several times if necessary
  - g. Confirm that the burner is lit, by looking through the front vents of the BBQ.
  - h. Adjust the regulator knob on the grill to the desired heat setting.
  - i. The BBQ does not require pre-heating. Do not overheat.
  - j. Do not cook on the high setting with the lid closed.
  - k. Unless you are searing a steak the low setting works best for general use.

- l. To shut off the grill, turn the regulator knob on the grill clockwise to the LOCK-OFF position.
- m. After use and each night, close hand valve on propane tank.

## 2. Cleaning the Grill:

The grill should be cleaned on a regular basis. Stainless steel exposed to high heat will change color over time. Discoloration of components does not affect the operation or performance of the BBQ.

- a. On the front lower outside of the BBQ slide out the grease tray for cleaning.
- b. Lift out the cooking grill and the heat plate for cleaning.
- c. The exterior of the BBQ can be cleaned with soapy water.
- d. Lock the lid of the grill securely with the latches.
- e. Cover the grill with the canvas cover between use.

## C. ANCHORING SYSTEMS

### 1. CHAIN MARKINGS

The anchor chain is 275' in length with about 12' of nylon line at the "bitter end". The nylon line is used in case of emergency to release the anchor by cutting the line—**DO NOT USE THE THIN NYLON LINE AT THE END OF THE CHAIN FOR ANCHORAGE—IT IS NOT RATED FOR THIS USE.** The chain is marked with a single strand of thin yellow polypro line through the links every 25'. A 2nd segment of line is included every 100' (eg. at 100' and 200' there is a 24" segment with polypro, a 12" gap and then a second 24" segment).

### 2. WINDLASS

The anchor windlass has foot controls (Up/Down) on the starboard side of the windlass. Always have main engine running when operating the windlass.

If there is no power to the Windlass, check circuit breaker in the master stateroom on the starboard side of the berth.

### 3. SCOPE AND TIDE SWING

Scope is the relationship of length of rode (chain, line, cable) to the depth of the water. San Juan Sailing recommends a 4:1 scope, unless weather conditions warrant more scope.

- a. Check the tide tables to know at what point in the range you are anchoring, and measure the scope for the high tide.
- b. Check for depth and rocks within the proposed "swing" area.

### 4. SETTING THE ANCHOR

With the main engine running,

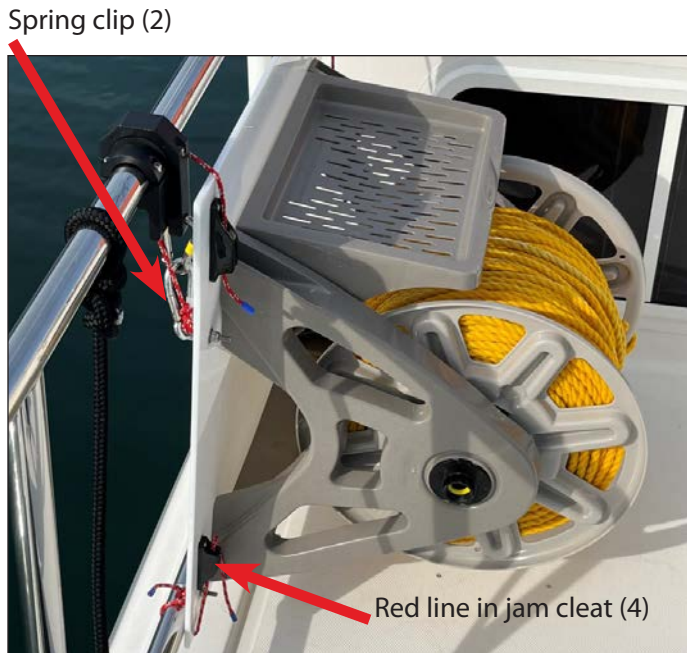
- a. The boat should be stopped facing into the wind.
- b. Depress the down arrow foot switch momentarily to let out about 2' of chain.
- c. Gently ease the anchor out on the roller so that gravity can take over.
- d. Back slowly while letting out the proper amount of rode based on scope desired.
- e. Put the engine in reverse idle momentarily to put a strain on the anchor.

- f. Verify the anchor is set by feeling the anchor catch and boat move forward.
- g. Using the snubber line with the chain (clevis) hook secure the chain in front of the anchor roller with the hook and tie the end of the line to a bow cleat. Let out more chain so that a slack loop is created in the chain between the anchor roller and the place where the hook grabs the anchor chain. This will relieve stress on the windless and ensure additional chain is not pulled from the windless. **DO NOT USE THE WINDLESS OR THIN NYLON "BITTER END" TO HOLD THE CHAIN IN PLACE.**
- h. Do an "anchor watch" for the first 30 minutes, observing how the boat swings and how close it gets to other boats and objects.
- i. Turn on Anchor Light if staying overnight. Anchor Light is a two-way toggle—be sure to use Anchor Light, not Running Light.

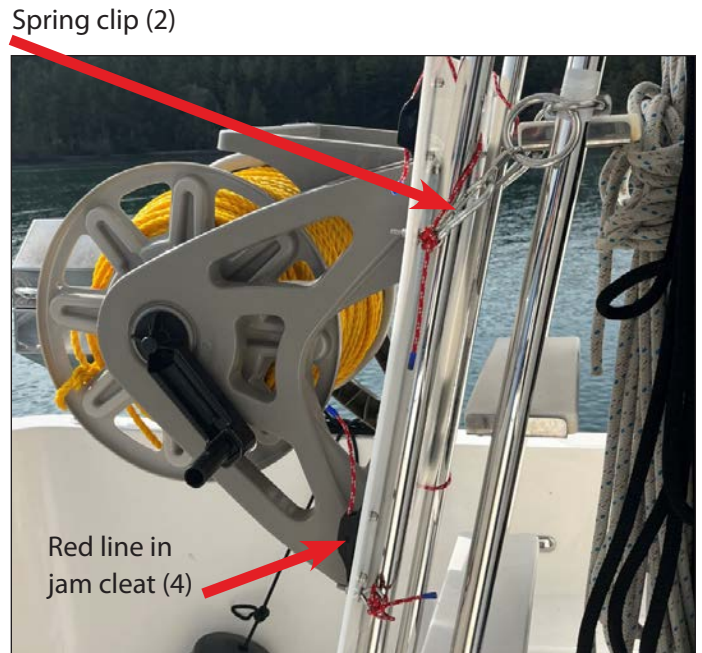
## 5. RETRIEVING THE ANCHOR

With the main engine running,

- a. Raise the chain so you can easily unhook the snubber line. Release the line from the cleat. Wash the chain and anchor with plenty of sea water as it is retrieved using the seawater wash down pump and hose:
  - i. See DECK WASH instructions on page 37.
  - ii. Start the engine and move slowly toward the anchor.
- b. At the bow, have a crew member depress the up arrow switch to retrieve the anchor.
- c. Use the seawater nozzle to continuously wash the chain and anchor before they reach the deck.
- d. If the chain tightens and starts to bog down the Windlass, wait until the boat "catches up" before continuing. **Don't drag the boat by the anchor chain through the water.**
- e. When the anchor is clear of the water make sure it is clean of mud and seaweed.
- f. Be careful for the last couple feet to make sure the anchor is facing the proper direction. Pull the anchor up the last few feet by hand, then take up the slack chain using short bursts on the windlass.
- g. Attach the snubber line to the chain and cleat off the bitter end.
- h. Release the tension on the chain slightly to take the strain off the Windlass.
- i. Turn off the sea water wash down pump and stow the hose and nozzle.
- j. Turn off Anchor Light.



Stern Tie Reel on Upper Deck



Stern Tie Reel on Stairs Ready to Deploy

#### D. STERN TIE

There is 600' of line aboard that can be used for a stern tie off to an object on shore. While not in use, the reel is stowed on the upper deck as shown in photo. Notice the spring clips hold the weight of the reel, while the small red lines in the jam cleats hold the reel tight to the railing. It is important that the red lines be as tight as possible to prevent the reel from moving or jerking loose while underway.

When preparing to stern tie, carefully release the four jam cleats and unclip the two spring clips near the top. This is really a two-person job. Take care when moving the reel to the lower deck—it is somewhat heavy and has protruding metal that can scratch the boat. Reclip the spring clips to the rings permanently mounted on the stairs as shown in the photo (upper right). Then reset the four red lines into their respective jam cleats.

Use the tender to take the free end of the line ashore and loop around your tie off ring or tree, etc. Bring the end of the line back to *Island Time* and tie it to a boat cleat. Next, remove all of the remaining line from the spool. Tighten the yellow line and secure it to a boat cleat. You should now have the yellow line secured to the boat, tightened, and looped around the shore ring/tree/etc. Do not leave any yellow line on the reel while tied to shore—the reel is not designed to take this load. The empty reel should be removed from the stairs and can be set aside in the cockpit or resecured to original upper deck railing.

When retrieving the stern tie line, the reel can be remounted to the stairs as before, and the crank may be used to reel the line back onto the spool. The reel should then be remounted to the upper deck rail as before.

#### E. MOORING BUOY

You may use one of the bow dock lines to tie to a mooring buoy by using the boat hook to catch the ring on top of the buoy. Carefully maneuver the boat to approach and come along side of a buoy. Then move the boat forward while walking the buoy toward the stern where it will be easier to attach the dock line. Pull the ring up enough to pass the dock line through the ring twice, back the boat until you can easily tie off to the port and starboard bow cleats. A second bowline looped through the buoy ring is advisable as a safety backup.

## F. TENDER

### 1. LAUNCHING THE TENDER

- a. The Swim platform Davit system is used to launch the tender.
- b. The tender is a 10 foot Kachemak 310 AL hard bottom inflatable style boat. It can handle a maximum of four people for a sight-seeing cruise or can be used for a variety of activities for two people including fishing, crabbing, and gathering other meals from the sea.
- c. An 8 HP Yamaha, four stroke motor powers the tender. There is a storage compartment under the seat with gloves and securing harness. The air pump is in the bow compartment.
- d. The Yamaha outboard uses straight gas from the fuel tank, (NO OIL PRE-MIX). If refilling fuel tank, look for Ethanol-free gasoline.
- e. To launch the tender:
  - i. Insert the drain plug into the tender stern and secure.
  - ii. Relieve the tension on the turnbuckles/carabiners that secure the davit to the stern rail by SLIGHTLY raising the davit by quickly pressing and releasing the UP button located on the port inside stern rail. (IMPORTANT: DO NOT HOLD IN THE UP BUTTON—THE DAVIT WILL CONTACT THE STERN RAIL AND BLOW THE FUSE FOR THE MOTOR. If this should happen, the fuse block is located in the tank room under the salon floor and mounted on the forward bulkhead just port of centerline. A replacement 30amp fuse is located in the small drawer below the helm seat on the port side. Make sure to report to San Juan Yachting that you used the spare fuse so a replacement can be placed on board when you return). Release the carabiners from the davit.
  - iii. Release the lines/straps/bungee cords that act to “snub” the tender movement while the boat is underway.
  - iv. Also loosen the tender’s bow “tie off” line enough that the boat may be lowered into the water. Then retie to the boat’s aft starboard cleat so the tender doesn’t wander when launched.
  - v. The winch control switches are located port side and aft. They are red and grey and have arrows indicating up and down.
  - vi. Ease out enough cable to determine that there are no encumbrances to full deployment (ie, no lines or cables are attached and there nothing retraining the tender from being deployed.) Once satisfied, proceed to lower the tender into the water.
  - vii. Deploy the davit until the securing lines are slack. Check to see that there is no water entering through the drain plug.
  - viii. It is now safe to step into the tender and release the securing lines. The tender should now be floating freely, secured to the boat by its tie off line.
  - ix. Position the tender close to the swim platform, so any passengers boarding (only up to 3) can step off the platform and comfortably on board.
  - x. **It is recommended that all parties boarding the tender wear life vests provided on *Island Time*. The Coast Guard requires one life vest for each person on board. In addition, all children under age of 12 are required to WEAR their life vest.**
  - xi. The driver should board first followed by up to three additional passengers.

2. Starting the tender

- a. Ensure the gas line is connected, and pump the primer bulb until it is firm.
- b. Secure engine stop switch lanyard to yourself (to stop engine in case you go overboard) and install lock plate under red button on engine. Lanyard is stowed in compartment under tender middle seat. Spare lock plates are under the navigator seat in the tug.
- c. Make sure the outboard is in neutral, (throttle lever vertical), and the motor is lowered to the stop. Pull the choke out, set the throttle to start and pull the starter cord.

3. Retrieving the tender

- a. Shut down the engine and lift the motor out of the water.
- b. Reverse launch procedure the tender by offloading passengers and positioning the tender so that it is ready to be lifted by the davit system.
- c. Re-attach lift cables and using the winch controls, raise the davit a few inches to insure cables are secure.
- d. The driver should now step off onto the swim platform, enter the cockpit and continue to raise the tender until the davit until it is close to the protecting pads on the aft rail. Then CAREFULLY tap the UP button until the davit meets the stern rail. DO NOT HOLD IN THE UP BUTTON OR THE DAVIT MOTOR FUSE WILL BLOW. See 1. e. ii. above if this happens.
- e. The turnbuckles which secure the davit to the stern rail may now be reconnected and tightened to secure the tender and davit.
- f. Resecure the lines/straps/bungee cords that act to “snub” the tender movement while the boat is underway.
- g. Remove the drain plug in the aft section of the tender and re-stow.

4. OPERATING THE TENDER (The Yamaha OUTBOARD manual located in the document cabinet under the port side pilot house seat.

- a. Never let minors start or operate the tender.
- b. Check the gas level by observing the gauge on top of the fuel tank. **Always stop the motor before refilling the tank.**
- c. Start the motor:
  - i. Check for a steady, stream of water flowing out of the back of the motor. If little or no water is coming out, stop the engine and check the cooling water intake or the outlet hole for obstruction. If there is no obstruction, there may be a water pump failure or blockage in the cooling system, which will cause the engine to overheat—do not operate the engine.
  - ii. The red lanyard is connected to the safety switch or (kill switch). The driver should attach one end the event he/she falls out of the tender the motor will stop.
  - iii. Operate the motor with the forward/reverse shifter on the starboard side of the motor and the twist grip throttle.
  - iv. To stop the engine, close down the throttle, put the motor in neutral and press the red kill button.

### G. SEA KAYAKS

Island Time is equipped with 2 sea kayaks mounted on the top of the pilot house. These kayaks are provided for use by our guests; however they are to be used at your own risk and assume you have appropriate experience and safety equipment to operate.

**Warning:** The kayaks are supplied as is, with paddles only. Paddles are wedged under kayaks on roof of helm. Spray skirts and specialized kayak life vests are not provided and are the responsibility of the guest. The kayaks are to be used only at your own risk. Do not use unless you are experienced in operating sea kayaks. Deploying as well as retrieval and re-stowing of the kayaks requires at least 2 strong and able bodied persons. If not performed carefully, damage to Kayaks or Island Time may occur. Any damages are the responsibility of the charter guest. Mounting sea kayaks off swim set is tricky and may be dangerous. Please observe appropriate caution and care. Should you use the kayaks, securely re-stow facing down, (wedging the paddles), using the provided straps.

### H. SALON SETTEE CONVERSION TO A BED

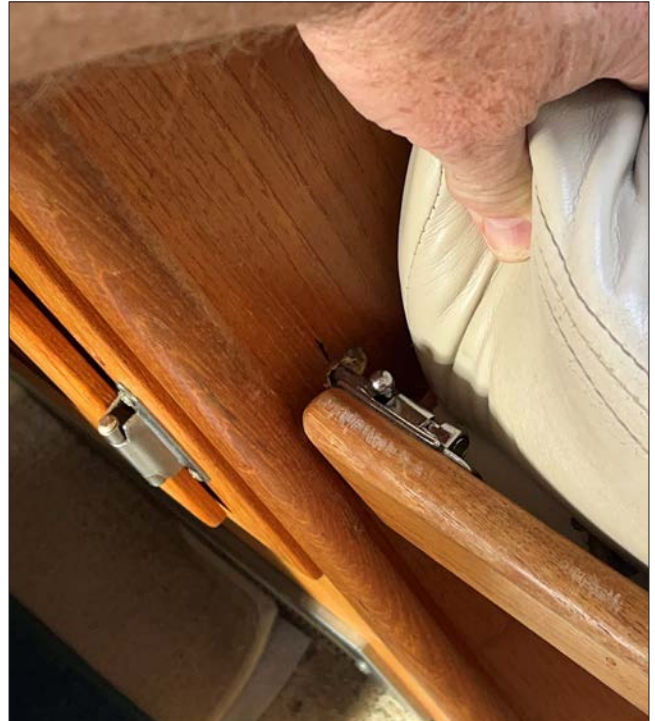


The salon settee converts to a queen bed by lowering the settee table, sliding the port settee cushion/board out over the table and propping up the outside corner with the vertical leg to fill out the bed to its full width.

1. **IMPORTANT NOTES BEFORE STARTING THE CONVERSION:** Ensure the table is at its lowest position to avoid scratching its surface as the settee is pulled out. There is very little clearance between the top of the dinette table and bottom of the bed board so it is imperative that you lower the table all the way to the stop position. Lower the table by releasing the locking lever underneath and pushing down against the force of the spring. It's helpful to have a second person put some weight on the middle top of the table while another person works the locking lever. When the table is all the way down to the bottom stop, it's very important to push down on the locking lever until it's in the vertical position and touches the table post. If the lever is only pushed part way down then it could release from vibration and the table will pop up into the bottom of the bed board and get scratched.



2. There is a latch pin that holds the settee in the seated position (*see photo*). Before converting the settee, slide the pin to the unlock position, allowing the settee seat to move.
3. There is a support leg stowed in the drawer beneath the settee. **The bed must be used with this leg in place.** Remove the leg from the drawer and carefully pull the cushion board out ensuring it does not come in contact with the table surface (if it does, lower the table further and lock it in place – see above). When the bed is fully extended, prop the corner with the leg as shown in the photos. Ensure the leg is fully vertical.
4. Reverse this procedure to return the bed to the original settee configuration. Make sure the dinette table is aligned on the centerline of the boat (not rotated) and will clear the bed frame before slowly releasing the locking lever.
5. Advise San Juan Yachting staff if you plan on using the salon settee as a bed and they will provide additional linens.
6. If you don't find additional linens, comforters and pillows for the settee, check the areas behind, below and around the settee.



## I. BLINDS AND PRIVACY

The window shades can be lowered for privacy. When raising and lowering the shades, use two hands. There are both a courtesy shade and a privacy shade associated with each salon window.

## J. EARTECH HEADSETS

We have 2 two-way radio headsets onboard to make communicating easier during docking, anchoring and other activities while boatmates are not in the same area. These headsets allow you talk with each other like you would on a phone, but don't require a cell signal and allow you to keep your hands available. The headsets are stored in the black pouch either on the nav table or behind the pilot. There is one master unit, it is labeled Main on the end that does not have the earmuff. On that same end is an On/Off switch. The other unit will go on automatically when the batteries are inserted in them. When done using the headsets, be sure to take the batteries out of them. Turning them off does not seem to stop the batteries from draining. There is a battery charger that will hold both batteries on the nav station or in the pouch. One courtesy note: While talking/shouting loudly to someone else on the dock – or while sneezing/coughing – be courteous to your boatmate and move the mic arm straight up to mute your unit!

## K. RANGEFINDER

When anchoring, it can be helpful to determine how far *Island Time* is from other boats, rocks, buoys, etc. Aboard you should find a Laser Range Finder. It works up to 900 yards (the device comes from the golf industry where the units are yards) with 7X magnification. To use the rangefinder, first be sure the device

is charged (cord included in the case), then push the On button. Next, push the Mode button until “dst” shows on the screen; then move the crosshairs to the feature you’re evaluating and its distance in yards should show on the screen. You may need to briefly touch the On button to re-awaken the finder when moving to another target.

## **L. STARLINK WI-FI**

We have found that while some guests want to “get away from it all”, other guests like to stay connected to what’s happening in the world and/or be entertained. For those latter guests, we’ve added a high performance Starlink Mobile-Regional system with mobile data service coverage. It should provide more than adequate data connectivity for any of your smart devices and potentially for entertainment on board (via guest’s streaming devices such as Firestick, Roku Streaming Stick, Google Chromecast, etc). You simply connect to the Wi-Fi signal ‘Island Time’, enter the password (posted at the helm) and you can take advantage of this on-board service. The system is 120 Volt AC powered, so either shore power, genset power or the inverter will need to be enabled (see Section 11. BOAT ELECTRICAL AND GENERATOR, C. INVERTER/ BATTERY CHARGER for inverter operation) .

Best estimates are that the Starlink system draws 40 – 75 watts continuously, depending on usage; after a 150 watt startup. Power consumption for extended time or full time service will require you to monitor the State of Charge of the inverter battery bank, especially if there are other AC systems also using the inverter. To save on power consumption, turn the Starlink breaker off when service is not needed. After the Starlink breaker is turned on, Wi-Fi service restores after about five minutes, as the system acquires satellite paths for internet connectivity. Reports on performance are positive, however there’s no guarantee of service, it is a best effort capability. The Starlink Mobile-Regional service package is advertised to provide service at speeds of 8.7 knots or less. If you are cruising over 8.7 knots, please shut off the Starlink as this could potentially violate the service agreement for the Starlink Roam package that is being provided. We hope it opens a new window of capability for those that want to stay in touch while cruising the Pacific NW.

## **M. KEY ITEMS TO REMEMBER**

1. Remember to properly seat all dipsticks (main engine with a clockwise twist), if you are required to check oil levels. If not seated, oil will spray out and make a mess.
2. Turn the Inverter OFF on the Magnum inverter panel (helm station) when shore power is connected. (Prevents battery depletion if shore power fails).
3. Ensure the anchor snubber line is attached to the anchor chain to prevent accidental deployment of the anchor (when anchor not in use), and to secure anchor chain (when in use).
4. When raising and lowering the shades, use two hands- one on each of the two knobs. Note also that there is both a courtesy shade and a privacy shade associated with each salon window.