

Notes from the Owners of Temana Grand Banks 42 Motoryacht

Dear Friends,

Welcome aboard Temana!

After chartering boats near our home in the San Francisco Bay area and then in the San Juan Islands, we were finally inspired to purchase our own classic trawler and share her with others in the San Juan Sailing and Yachting charter fleet. When we found this fine Grand Banks 42' Motoryacht for sale on Lake Union, we decided she was the one for us. The name *Temana* comes from our three (now adult) children – Tessa, Max and Nate – and it also happens to mean "to shine brightly" or "illuminate" in a Māori dialect (at least according to one Internet source). We sincerely hope that *Temana* shines brightly for you during your cruising adventures.

We have updated many of Temana's systems and have tried to put on board everything *we* would want to see in a charter vessel. If you can think of anything else that would make Temana more enjoyable for you, please let us know through San Juan Sailing and Yachting, or call, text or email us. We've tried not to overlook any detail in our effort to make her a great boat and one that charter guests will greatly enjoy and want to come back to.

We wish you fair seas and wonderful memories. Thank you for being our guests!

Sincerely, Bob Schwartz and Gail Miles 415-999-3136

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Temana's Specifications:

Year: 1996 Lenth: 43' 3" Beam: 14' 1" Draft: 4' 2' Displacement: 34,000lbs. (Dry) Fuel: 600 gal. (2 tanks; 570 gal. usable) Water: 240 gal. (2 tanks) - Hot water: 18 gal. Holding: 30 gal. Engine: Twin 300 hp. - Caterpillar 3116TA Generator: 8 kw Onan Dinghy: 11' 2" Highfield 340 with console steering, chart plotter and 20 hp Tohatsu Vessel Official Number - 1046195 Year: 1996

Other useful measurements:

Salon Refrigerator

- Main compartment 18" W x 21" D x 19" H
- Freezer compartment 18" W x 11" D x 6"' H

Staterooms:

V-Berth 6' 8" L by 3' 5" W Pullman berth: 80" L by 51" W at head, 39" at foot Aft Master: 80" X 60" (standard queen-size) Salon and Stateroom headroom 6' 7" ave.

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Conventions for these notes:

Key to Markings: Throughout these notes we have use the following convention:

- ALL CAPS used for safety and operational warnings.
- <u>Underlining</u> indicates the location of things.
- **Bold** indicates important knowledge or data.

Emergency/Safety Equipment

Fire Extinguishers – There are five ABC rated fire extinguishers onboard. Locations are:

- Flybridge in the cabinet under panel
- Pilothouse starboard of wheel, down near the floor
- Master cabin near floor mid-cabin port side
- V-berth on closet floor starboard side
- Engine room automatic fixed extinguisher

Hitting a Log or Running Aground – In case of a log hit or running aground, immediately check for leaks in the bilge. Once you are sure no water is entering the hull contact **San Juan Yachting at 360-671-4300** and proceed to the nearest harbor and have a professional diver check the hull, keel, prop, and rudder before proceeding.

Leaks – Make sure the bilge pumps are running. Then determine the source of the water, check the prop shaft first and then the thru-hulls. There is a diagram showing the location of the through hulls in the white notebook. Get the crew on deck and into life jackets if you discover a significant leak. There are wood plugs wired to each of the through hulls. Just so you know, Temana does have a high-water alarm, the panel is located on the starboard side of the pilothouse, near door and up at head level. In addition, the individual pump controls will alarm when a pump runs. See the bilge pump section on page 9.

Emergency Equipment – <u>Flares, air and manual horns, etc. are in the cabinet by the starboard entry</u> door. Personal flotation devices are on the flybridge under the bench seat right behind the helm seat.

Crew Overboard – There is a life ring by the steps to the flybridge. There are also cushions on the flybridge. One or more of these should be tossed to and/or towards the person in the water first. Second, hit the MOB button on the chart plotter so you will know where they are (this takes more than one button). We also have a LifeSling mounted on the sundeck rail. The dinghy davit could be used in conjunction with the LifeSling as necessary to get the person back onboard.

Emergency Tiller - The boat has cable steering. In the event of a steering system failure, an emergency manual tiller is provided. It is stored in a space behind the headboard panel in the aft cabin. To use the tiller:

- 1) Remove the headboard panel to access the tiller handle (which looks like a large hockey stick)
- 2) Move the mattress off the platform to port and lift the aft-most wood panel under the bed from the starboard side
- 3) Engage the rudder with the tiller handle
- 4) Steer with the tiller

The Eartec headsets will prove invaluable during such an emergency, as the person handling the tiller can then communicate with "eyes" at the helm.

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 Temana. In general, stay at least 400 yards away from the whales. Sometimes they come to you, if this happens, shut down 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 Temana'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.



Nuances For Guests

There are a few things about Temana we'd like to point out. These are the things that may require special attention or where it may be best to deviate from operating procedures that you may be used to. We have listed some here because we believe they will help you plan your charter.

Idle Speed

We have found that Temana's idle speed is a bit faster than on some other boats we've operated. When docking, or operating in tight quarters, we compensate for this by bumping the engines in and out of gear, either both or one at a time. The boat is quite maneuverable, especially with both bow and stern thrusters, but care should be taken to control forward or aft speed.

• Kayak and Paddleboard Storage

To prevent damage, please store kayaks and paddleboards only on the aft deck. They should be stored athwartships and never rested on varnished teak rails. Be aware that storing kayaks and paddleboards here does block easy access to the dinghy and BBQ.

• Run Hoses Through Hawseholes

When filling water tanks or washing the decks please run the hose through one of the metal hawseholes. This will prevent damage to the teak rails.

Salon Doors

The port and starboard entry doors are fitted with strong locks, and they have stainless catches on the cabin sides to hold them open; these "hold-open catches" should be engaged manually, so the doors do not slam into them and potentially damage the door and/or the catch. The doors should generally be closed when underway except at very low speeds in calm waters to avoid getting salt water on the newly refinished floors.

Anchors and Windlass

Temana is equipped with two anchors, both forward, primary is a 45# CQR with 325' of 3/8" chain + 25' of rode and the secondary is a <u>30# Bruce with 36' of chain and 180' of rode</u>. The primary **chain is marked with yellow poly line threaded into the links every 25 feet and there are two lines in a row at 100 and 200 ft**. The secondary anchor is marked as follows: blue at 80', orange at 125', green at 175', and red at the bitter end.

While anchoring can be done using hand signals, the Eartec two-way headsets can be used to make communicating a bit easier. The use of these headsets is discussed in the Docking section of these notes. Also, note the depth sounder is set to read from the transducer which is about 2 feet below the waterline. Plus, the bow chain roller is about 6 feet above the waterline. Therefore, be sure to add 8 feet to the depth reading when calculating scope.

The scope normally used in the San Juan and Gulf Islands is 4 to 1, definitely not 7 to 1 (unless conditions call for it, i.e. sustained winds over 25 knots). Most of the anchorages are well protected and popular, so you will likely have someone anchored nearby. After you have paid out the suitable amount of chain, 1-2 minutes of IDLE reverse on one engine sets the anchor (you do not need more due to Temana's relatively large engines). Here is an easy formula for how much chain you need out; add the water depth on sounder, plus any tide increase expected during the night, plus 8' (to account for the distance from sounder to roller on bow) and take that total and multiply by 4 (typical example would be 25' of water + 6' of tide increase + 8' = 39' x 4 = 156').

The electric anchor windlass receives power from the house battery bank. <u>The circuit breaker for the</u> windlass is located to the right of the pilothouse wheel. Please note the windlass will work without the engine running. However, doing so for more than just a minute will drain the house bank, so it is best to have the engine running when using the windlass.

The <u>up-down buttons are on the forward deck (see</u> <u>picture to right)</u>. Please use these instead of the windlass controls at the helms as it is very easy to ding the bow with the anchor; **anchoring should always be a two-person job!** Also, be sure to take the tension off the windlass by attaching the snubber to the chain and tying to a forward cleat (**not** the cleat on the windlass) and then running out more chain until the chain on the drum is slack. The snubber is stored in the locker just aft of the windlass.



Up/Down Buttons

Windlass Operation

The breaker for the windlass is to the right of the pilothouse helm, see picture right. Please do not use the up/down controls on this panel unless absolutely necessary, anchoring should be controlled from the bow.

The chain goes from the windlass into the chain locker through the chain pipe behind the cog wheel (wildcat). Be especially careful to keep fingers, hands, arms, etc. away from the chain when it is moving! By using the foot switches at the windlass, you will be able to observe the chain engaging with the windlass and moving into or out of the chain pipe.

Seawater Washdown

While retrieving the chain and anchor, rinse the debris and mud off the chain and anchor using the <u>raw water spigot adjacent to the anchor platform</u>, along with the <u>thin coiled hose in the locker just aft of the windlass</u>. <u>The S.W. Pump</u> <u>breaker in the 12 Volt Electrical Panel</u> must be "On" to enable the pump to run when the spigot is opened. **Turn the breaker "off" when finished to prevent flooding the boat if a saltwater pipe in the engine room should break**.

Chain Jams

If the chain jams while **lowering** the anchor, it may be that, inside the chain locker, one loop of the chain has fallen inside another loop when the chain pile fell over or shifted. It is impossible for the chain to knot so you should never need to disconnect it at either end. One way to disentangle the chain is, while wearing gloves, (stowed <u>at the bottom of the hanging locker in the V-Berth cabin</u>) grasp the chain on the forward side of the cog wheel, and, while lifting it above and behind the cog wheel, rapidly yank it up and down through the chain pipe. This will usually free it. If this "yanking" technique fails, a crew member can access the chain locker from the V- berth and un-overlap the layers of chain in the pile (please use the blue tarp <u>also stowed in the V Berth</u> <u>locker</u> to protect the bedding). Be especially careful to keep fingers and hands away from the chain when it is moving!



If the chain jams while <u>retrieving</u> the anchor, it may be that the chain, in the chain locker, has piled up to a peak and blocked the chain pipe. Use the pole (<u>stored in the V-berth hanging locker, along with the tarp and gloves</u>) to poke the chain pile and tip it over. Then, additional chain can enter the locker. We have found that if you deploy all of the chain, you may have to do this once or twice during anchor retrieval. So you may want to get the gear set up and ready to go before you begin retrieving the anchor.

In the chain locker, the end of the chain is attached to the boat using a strong nylon line. If the anchor can't be retrieved, the anchor and chain can be cut loose from the boat. Attach the end of the chain to a fender for flotation and record the location of the anchor and chain for later retrieval. If possible, contact SJ&Y for advice before abandoning the anchor and chain.

Secondary Anchor

A secondary anchor is mounted on the bow pulpit adjacent to the primary anchor. This is to be used if you have lost the primary anchor. It is attached to 215 feet combined of rode and chain. The winch can also be used to retrieve the secondary anchor.

Stern Tie to Shore

When a stern tie to the shore is appropriate, an anchor is set some distance off shore, with the boat backing toward shore during anchor-setting. (Anchor distance from shore depends on expected final stern distance from shore, plus boat length, plus expected length of chain necessary.) Of course, water depth at the anchor, at the boat and expected tides must be taken into account.

<u>The stern tie line is on a reel on the sundeck</u>. There is about 125 feet of line. If you are anchored close enough to shore, you can take the line around a tree on shore and back to the boat so that you do not need a crew member to go ashore again to untie when leaving. Pass the line through an aft hawsehole and hand it to a crew member in the dinghy. With the boat anchored and a crew member keeping the boat in position, take the dinghy to shore pulling the end of the stern tie line along. Pass the line around a tree or any solid object and pull it back to the boat then through the hawsehole again (if long enough). Pull the line tight and cleat both the outgoing and incoming lines (the reel is not strong enough to support any load). With 100' or more of line out, there is plenty of sag/stretch, and we want to keep the boat in its area! If necessary, put a crab pot float or fender on the line to warn others that it's there. During this process, be sure to keep clear of rocks near the shore. Then, to depart in the morning just release the bitter end from the boat (or retrieve it with the dinghy) and wind the line aboard.

Barbecue

The barbecue is located on the stern rail of the sundeck.

To operate:

Open the valve on top of the propane tank below the grill, open the lid, open the regulator, push the lighter button until lit. Adjust the flame level using the rotating burner valve. When finished, press and turn the regulator off and close the shut-off valve on the tank. A grease catch pan under the burner may need to be emptied. Please note that the outside of the grill gets quite hot while in use and should only be touched with suitable gloves or potholders, which are stored in the galley. Also, the grill should be used on low or medium flame if cooking with the top closed. Use the spray water bottle in the starboard side sundeck locker for flares.



Batteries, Charging and Inverter

Temana has 5 battery banks onboard:

- House Bank (3 270 AH batteries), total 810 amp/hr 12 V Lithium, located in the engine room.
- Engine Start Batteries –2 AGM, 12 V 1260 cold cranking amp, located in the engine room.
- Generator Start Battery 1 100 amp/hr 12 V, aft of the generator.
- Bow Thruster Bank –24 V, located under the V-berth portside.
- Stern Thruster Bank –24 V, located under the queen mattress starboard side

We have her wired for maximum convenience. The battery banks are separated from each other so it should be impossible to drain the start batteries. The batteries onboard are charged in several different ways:

House Bank - Charging

The house bank is charged by the Victron inverter/battery charger or by the alternator on the starboard engine. For the Victron to charge, the boat must be on shore power or the generator must be running, and the Inverter breaker on the AC panel must be on, as it feeds AC to the Victron. Note, this is not power from the inverter.

The Victron controller is located on the overhead panel at the lower helm, to the left of the two chart plotters. If the screen goes to sleep, just touch the screen to wake it up (it can be set to stay on all the time). The are multiple screens, slide side-to-side to scroll through them. The top screen shown to the right is used to monitor the house bank charge status. The second screen is the one needed to be sure the battery charger is on. Note the AC Mode in the middle bottom, tap on it to scroll through these 4 settings: On, Off, Charge Only and Invert. We recommend this be left in Charge Only unless the inverter is needed. Switching to Invert is how the inverter is turned on. When done inverting, set it back to Charge only. Note, on this screen levels for the water and fuel tanks can also be viewed.

The lithium battery bank is large and can be taken down to about 20% on the state of charge. Once this level is reached it is time to charge the batteries; we recommend charging well before you reach that stage.

Start Batteries - Charging

The start batteries for both engines and the generator are charged by the alternator on the Port engine or by a separate battery charger. The Charger breaker on the AC panel powers this charger.

Thruster Batteries – Charging

Each thruster battery is charged by its own AC charger. Breakers for these are on the lower left side of the AC panel. These chargers are on the inverter circuit so they can also be powered by the inverter if you are away from shore and do not want to start the generator.



Connecting to Shore Power

- Ensure that either the **Master Switch** on the AC Panel or the breaker on shore is "Off" (or both).
- Choose one of the two shore power cords. The <u>50-foot</u> <u>cord is coiled behind the starboard locker on the sundeck</u>, while <u>the 25-foot cord is on the flybridge underneath the</u> aft-most cushion.
- Connect the shore power cord to a receptacle on the bow pulpit or at the stern on the sun deck. Then connect the cord to the marina power source (we never do this in reverse, as we do not want to risk having a live power line drop in the water). You may need to use one of the adapters in the step by the port door if 50-amp service is not available on shore.
- Select the **forward** or **aft** receptacle with the large rotary switch on the AC Electrical Panel.
- Flip "On" the Master Switch and/or shore breaker
- Verify power is reaching the boat by looking at the meters located to the right of the lower helm.
- Be sure the INVERTER breaker on the AC panel is on and the Victron control is in Charge Only mode. The Victron Inverter-Charger will automatically start charging the batteries (after a 20 second startup).
- Once the Victron charger starts charging, verify the amperage is below the level you are plugged into, i.e. 30 or 50 amps.



Berths and Bedding

Temana has two ample cabins forward: a V-berth and Pullman berth, both with a hanging locker and drawers. There is also a head and shower stall forward. Both forward cabins can be closed off and the entire forward section can be closed off for additional privacy and creation of a two-cabin "suite." The master stateroom is aft with a walk-around queen-size bed, many drawers, a desk, a hanging locker and a large mirror. There is also a head and separate shower. There are ample sources of lighting in each stateroom, with master switches for each cabin as well as individual controls for reading lights. Each cabin is equipped with one or more 110V outlets that are powered by the inverter and are suitable for CPAP power.

Showers, Sumps and Gray Water

Water from the galley and head sinks flows overboard, via gravity, in accordance with U.S. and Canadian law. Since the floor of the showers is below the water line, shower sump pumps operate to lift the water back above the waterline and dump it overboard. When showering, it is critical that the "Drain Pump" breaker in the DC panel be "On," or the pumps will not operate and the shower will flood. After a shower is complete, please turn the Drain Pump breaker off.

There is also a freshwater shower on the sundeck. It is useful for rinsing after swimming and washing off shoes after a trip to shore. There is a <u>hose for freshwater in the starboard locker on the sundeck</u>.

Bilge Pumps

Two electric bilge pumps are controlled by switches in the DC panel by the lower helm. In the center row, the breakers labeled FWD Bilge Pump and AFT Bilge Pump should always be left "On." These switches provide

power to the pumps. To the right of these two breakers each Bilge Pump has a 3-position toggle switch labeled "Auto" (down), "Off" (center) or "Manual" (up). These switches should always be left in the "Auto" (down) position.

When in "Auto" (down) the pump is controlled by its float switch. When set to "Off" (center) the pump will not run. This position is only used if the float switch is defective and will not turn off. When set to "Manual" (up) the pump will run without regard to the float switch. This is used by the operator to drain water below the range of the float switch or to bypass a defective float switch. (An alarm sounds whenever a bilge pump is running.)

There is one <u>EMERGENCY ONLY</u> high-volume engine seawater pumps that draws from the bilge. The starboard engine's seawater intake hoses has a tee with a ball valve to a large hose in the bilge. To allow the engine seawater pump to draw from the bilge:

- 1. Have the starboard engine running.
- 2. Cut the zip tie and move the valve handle to point at the hose running to the bilge.
- 3. Close the thru-hull valve fwd of the sea strainer for the starboard engine (In an emergency, this valve will probably be under water).

The engine pump should not be run dry. As soon as the bilge is pumped out open the thru-hull for the strainer and close the bilge intake valve.

IF THIS BILGE VALVE IS LEFT OPEN AND THE THRU-HULL VALVE IS OPEN, THE BOAT WILL SINK.

<u>There is also a manual bilge pump located in the</u> <u>engine room, just under the salon floor at the rear of</u> <u>the engines (see picture)</u>. <u>The handle for the pump is</u> <u>mounted directly behind the pump, attached to a</u> <u>string</u>. You will need to life the rug and open the aft engine access panel on the salon floor to access the pump.





unless boat is flooding.



Flybridge Enclosures

Temana enclosure panels can enclose the forward half of the flybridge. The forward windshield panels can be partially zipped open for ventilation or even removed, but please take care that they do not flap in the wind, where they could be damaged. The side plastic windows are on a track and can be unzipped and slid open. If you remove any panels, please lay them flat on one of the mattresses, and lay a sheet or towels in between panels if you remove more than one. They can be easily scratched or otherwise damaged and cannot be folded or rolled up. There are sheets in a bag kept solely for this purpose in the drawer at the foot of the aft cabin bed.

TIP: The plastic windows in the panels are vulnerable to scratching from dirt and salt crystals. When salt spray dries on the plastic, tiny salt deposits are left behind and tend to obscure your vision. Please avoid directly touching the plastic with a damp rag or sponge. It's like rubbing the plastic with sandpaper! Salt does dissolve in water, but not as fast as you might think. The salt crystals remain un-dissolved for several seconds of freshwater rinsing. To clean, use generous amounts of fresh water , best to use a hose hook to the bow fresh water tap or a dock hose and "flood" the plastic to dissolve the salt crystals away.

<u>Caution</u>: Most spray-on sunscreens and bug-sprays react chemically with the plastic windows. Please inform your crew to spray downwind of all the panels. And please don't lean against the windows with sunscreen on your back and shoulders. Once that chemical reaction takes place, the plastic becomes permanently hazy.

Dinghy, Outboard and Davit

- 11'2" Highfield aluminum/inflatable boat with console steering, Garmin chartplotter and 20 hp Tohatsu outboard (If plotter is not on the boat, then it is stored in the top drawer under the lower helm seat.
- Do not tow the dinghy, raise on davit and carefully secure using the custom harness when underway.
- The dinghy motor has an automatic choke, there is no manual choke to adjust.
- Use only the fuel tank in the bow of the dinghy. Be sure to open the breather valve on the tank cap.

Dinghy

For safety, and compliance with U.S. rules, there must be a life jacket aboard the dinghy for each passenger and children under 12 must wear it while the dinghy is afloat.

The dinghy is equipped with an outboard motor with remote controls, a console, Garmin chart plotter, lights, depth sounder, bilge pump, battery, shore line, paddle, and a 3-gallon fuel tank in the bow. (Dinghy fuel is Regular Gasoline (87-octane)

Davit

The boat has an electric davit to raise and lower the dinghy. <u>There are two remote controls for the davit, which are kept in</u> <u>the compartment under the windshield just forward of the</u> helm. The control should be worn around the operator's neck



at all times while in use. There is also a wired davit controller if necessary, which is <u>stored in the starboard nightstand</u> <u>drawer in the aft cabin</u>. It must be plugged in (there is a special plug for this by the nightstand) and then fed through the window just above the nightstand to the stern of the boat. We much prefer using the remotes!!

The dinghy davit is a Roskelley-Olsen "Inverted J" unit that holds the dinghy horizontal above the swim step and water, and lowers it gently with a winch. While the harness may look like a Rube Goldberg contraption, it is actually fairly simple to deploy the dinghy once you've done it once or twice, and if you follow the procedure step by step. Here is how to use it and safely deploy the dinghy:

- 1) To operate the davit, turn "On" (down) the toggle switch circuit breaker at the bottom of the wall starboard of the lower helm.
- 2) Put in and flip closed the dinghy drain pump, which is tied to the dinghy just underneath the engine. (FAILURE TO INSERT THE DRAIN PLUG IS THE MOST COMMON ERROR IN LAUNCHING). This is best achieved by climbing down the ladder, positioning one leg on the swim step and leaning forward over the dinghy. You may need to loosen the bow and stern lines just a bit to do this comfortably. Remember, if the plug is not in, the dinghy will quickly take on sea water. If you forget and lower the boat into the water, hoist the dinghy a few inches at a time and wait for the water to drain. IT TAKES A LONG TIME!! Then hoist another few inches and wait. When draining is finished, raise the dinghy and insert the plug.
- 3) With one of the remotes around your neck (you may need to activate the remote, which is done by pressing the square button at the bottom right of the remote), ease the lines running from the sundeck cleats to the bow and stern of the dinghy so that they are slack and the dinghy can be safely lowered. Then position yourself on the walkway at the top of the transom.
- 4) Raise the dinghy just enough so that you can unhook the two short restraint lines from the davit.
- 5) Lower the dinghy until afloat and the tension is off the harness cables. With a pfd on, carefully descend the ladder to the swim step and climb into the stern of the boat (stepping on the folded-over seat) and taking care not to trip on any of the cables. Then unhook the two large carabiners from the rings on the davit arms.
- 6) Raise the davit.
- 7) Unhook the blue line at the bow of the dinghy, and stow the aft portion of the harness (including that blue line) behind the seat. Then unhook the other blue line from the bottom of the seat. The forward part of the harness can stay in the boat, or you can unhook the whole thing and stow it. We find it easier just to leave it in the boat.

To re-stow the dinghy reverse the entire procedure. Don't forget to stow the remote controls in the compartment by the lower helm and be sure to re-attach the cables. Please do not let the davit arms contact the transom when launching and securing the dinghy (there is a kill switch that should prevent this but please take care in the event that it malfunctions).

Outboard Motor and Dinghy Operation

The dinghy has a new Tohatsu, 4-cycle, 20-hp outboard motor with electric-start and tilt. Once you are safely in the dinghy and unhooked from the davit with the harness safely stowed, you can start the motor (the key is in the compartment by the lower helm). You will have to turn on the battery (on the front of the seat), and you must open the fuel tank vent in the cap of the tank, stored in the bow of the dinghy. When operating the dinghy, the ignition lanyard (also at the lower helm) should be attached to the operator, so that the engine will shut off if the operator falls from the boat. Please be sure to close the vent, shut off the battery, and replace the key and ignition lanyard in the lower helm compartment after you have re-stowed the dinghy and reboarded Temana.

Electrical

AC Panel Breakers (Lower Panel)



AC Reverse Polarity

If the "Reverse Polarity" light should illuminate when connecting to Shore Power, immediately disconnect the power cord from the marina outlet and contact harbor personnel advising them of the problem. Do not risk shock or system damage!

AC Shore Power, Disconnecting & Connecting

The large AC selector switch on the bottom of the AC power panel is used to determine the source of AC power for the boat. The switch has four positions, "Off", "Gen", "Fwd Shore", and "Aft Shore". The "Shore" positions represent the bow and stern shore power connectors for the shore cable. The switch should be "OFF" whenever you are connecting or disconnecting the boat to shore power or starting or stopping the generator.

<u>The bow connection is under the windlass and the aft connection is at the aft end of the starboard bench on the sundeck. There are breakers at each location but these should generally always be on</u>. So, there is nothing to do, just plug and go. The pictures below show both forward and aft connections.



As you turn on AC appliances, watch the Victron Display and don't exceed the dock's available supply, typically 3000 watts. Typical current demand for AC power devices are:

- Battery Charger 2000 watts (if batteries are very low when shore power is plugged in)
- Water Heater, Microwave or Toaster each 1500 watts
- Hair Dryer 1200 watts
- Coffee Maker 1000 watts
- TV 150 watts

Under most circumstances the following breakers should be on all the time while you are cruising, mostly because if there is no AC power present having them on does not hurt anything:

- Starboard and Port Outlets
- Water Heater (inverter does not feed this so can be left on)
- Charger (feeds the charger for the engine start batteries)
- Inverter (feeds the main battery charger)
- Bow and Stern Thruster chargers (these are powered by the inverter)

The others can be turned on as needed.

DC Power Panel (Upper Panel)

The following breakers should be left on (generally) during your cruise:

- Lights (Fwd and Aft Cabin, Salon)
- F.W. Pump
- Forward Fridge (optional)
- Galley Fridge

Before getting underway turn on the following breakers:

- Horn
- Wiper
- Electronics

- Fwd and Aft Bilge pumpsVHF
- Starlink
- Autopilot
- Rudder Indicator



And when ready to start engines, turn on the appropriate engine breakers (see Engine section).

Electronics and Instruments

Below is a view of the pilot house overhead:



Chart Plotters

Temana is equipped with five Garmin chart plotters: three at the lower helm two on the flybridge. They are powered by the **Electronics** breaker on the DC electrical panel. There are also Power buttons on each plotter.

After power is turned On, "Agree", to the Disclaimer, "Ok" the Map Warning The most popular selections for screen formats are accessed by selecting Home then Select "Charts" and choosing the preferred chart, usually Navigational Chart or Radar Overlay. Please refrain from changing settings beyond the typical functions such as chart orientation, radar overlay, AIS overlay and range. With three plotters at the lower helm, you can easily have two different charts displayed at the same time (one zoomed in and one zoomed out) along with key vessel information (speed, depth, location and heading).

Commonly Used Chart Plotter functions – Some of the functions below require the selection of the Layers tab, the one with a curled page, press Option to bring up what is shown. Also, once Layers has been selected, be sure the Radar option is turned off, the instructions below require this.



- Finding the Navigational Chart: Home>Select Charts, Select one of the Navigation Charts, usually the Nav Chart.
- **Zooming in and out**: Spread fingers, or use + / toggles on the screen.
- Returning the screen to the vessel's current location: Press Stop Panning on the screen.
- Chart Orientation: subject to your preference, we recommend Course Up as it provides the best view of where the boat is really going. The plotters should be on this setting, you can check by going to Chart >Options>Chart Settings>Orientation (Select North UP or Head UP or Course UP).
- Display Brightness: Press Power Button once <Backlight (Adjust Backlight).
- Course over Ground (COG) Vector/Line: From a Chart>Options>Layers>My Vessel (Can adjust Heading Line, Range Rings etc.).
- Displaying and using a Split Screen: Allows having Chart zoomed-in on one side and zoomed-out on the other, or Nav Chart on one side and Radar on the other. Home>Charts>Navigational Charts> Choose the split screen.

- **Radar Overlay:** From a chart>Options>Layers>Turn on Radar > on Left of Screen touch square button "Xmit Off" to begin transmitting. Use these square buttons to adjust radar or stop transmitting.
- AIS Overlay & Targets: From a chart>Options>Layers>Other Vessels>AIS > On or Off (then other details}.
- Aft-view Camera: A camera mounted on the mast integrates with the Garmins and is extremely helpful in close-quarters maneuvering, in particular stern-in docking.

A.I.S. (Automatic Identification System):

Temana transmits her position and data via an AIS signal as well as receiving AIS signals from other vessels equipped with AIS transmitters (Commercial vessels are required to have AIS, recreational vessels are optional). <u>The AIS radio gets its power from the VHF breaker on the DC panel</u>. We suggest leaving this breaker on all the time. This way the ship's location is viewable should there be an emergency. For example, it would allow a CG helicopter to find you should someone have a heart attack.

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

AIS is an added safety feature that allows large commercial vessels to easily see you and your direction/speed. They may try to contact you via VHF channel 16 to verify your course intent. In addition, AIS allows San Juan Sailing/Yachting to provide faster assistance in case of unplanned maintenance issues as well as alert San Juan Sailing/Yachting of *Temana's* return approach. Vessels with AIS can be viewed in real-time through mobile device apps and websites like <u>www.marinetraffic.com</u> that will reveal vessel name, course, speed, track, and other information.

Autopilot

There are autopilot controllers at each helm in between the engine shifters and throttles. **To operate the autopilot both the Electronics and Autopilot breakers (DC panel) need to be on.** At the same time, it makes sense to turn on the Rudder Indicator breaker, this one powers the <u>analog gauge located to the right of the throttles in the</u> <u>pilot house and above the autopilot on the flybridge</u>. Note the autopilot controller also shows rudder position (see picture).

To engage the autopilot, press the orange Engage button. To disengage, press Standby.



VHF Radio

The main VHF radio is an ICOM mounted on the overhead in the pilothouse, with the mic to the right of the wheel. There is a remote mic on the flybridge. The breaker for the radio is on the DC panel and is labeled VHF, but we suggest leaving this breaker on all the time. Turn the radio on and off by holding the large knob in for 1 sec.

Refer to Tab 7 in the <u>Charter Guest Reference</u> <u>Manual</u> for: VHF Radio Tips, local VHF Marine Radio Channels, etc.



Listed below are instructions on how to perform

common tasks on the radio. The soft keys have multiple pages of options, use the < and > keys to scroll through these.

- Turning On and Off the radios Press the button/nob on the lower right for 1 sec. to turn it on. Once on, holding the same button for 1 sec. will turn it off.
- Silencing a DSC Alarm When the DSC button on a radio is pressed by another boat (or the Coast Guard) it sounds an alarm on all boats in the area. Press any key silence this alarm.
- Changing from High to Low transmit power Press the HI/LO button on the mic to switch between 1W (low power) or 25W (hi power).
- To quickly get to channel 16 Tap the blue16/C button (this button also exists on the mic). Holding it in for a second will take you to channel 9 or the currently set call channel. Can be changed in the Menu, under select Settings/ Radio/Call Channel.
- Accessing the weather channels (WX) Press the soft key labeled CH/WX to toggle between weather channels and normal channels.
- Adjusting Volume and Squelch These have their own nobs at the bottom of the radio.
- Changing between International & U.S. channel Press the MENU and select Settings/Radio/Channel Group. Now use up or down to select "USA" and press ENT. Once selected press Menu again to exit.
- How to set up and use Channel Scanning
 - To set up a channel go to that channel using the up/down keys and then press the soft key labeled Fav *. This action marks the channel as a Favorite (screen shows a * up and to the right of the channel), pressing the Fav * on an already marked channel unmarks it.
 - To start scanning press the Scan soft key.

Eartec Headsets

We have a pair of two-way radio headsets onboard to make communicating easier during docking (and other activities, like anchoring). They <u>are located</u> in the hanging locker in the V-Berth, and the battery charger and batteries <u>are directly on top of that hanging locker</u> (and should be plugged in to keep them charged). 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 these please take the batteries out of them and return them to the charger.





Engines and Operating Underway

Temana has twin CAT 300 hp engines. The following table shows *approximately* what to expect performance-wise:

RPM	Speed	Fuel Cons	N Mi./Gal
1400	8.0 knots	4.5 GPH	XXX
1600	8.5 knots	6.0 GPH	1.42
1800	9.5 knots	7.2 GPH	1.39
2000	10.3 knots	10.8 GPH	1.06

We typically cruise in the 7.5 – 10 kts range at 1400 - 1800 RPM. Cruising above 10 kts is doable but consumes large amounts of fuel; in addition, the boat begins to plane at about 1800 RPM and visibility from the lower helm may suffer (watch out for those crab pots and logs!!). In any case, you should never exceed 2400 RPMs.





Flybridge Controls

The throttles and shifters are mechanically linked so there is nothing that has to be done with these when moving from one helm to the other. The synchronizer does need to be switched, see instructions on this below. The autopilot can be controlled from either helm so it can be left on when moving.

Please note it is best not to stop the engines from the flybridge, unless it's an emergency or due to alarms. We say this because it is very easy to forget to turn off the engine breakers on the DC panel. Leaving these on would keep engine controls, fuel pumps, etc. running and will draw down the start batteries. So, best to turn off the engines from the lower helm where the breakers are located.



Engine Instruments

The **Instrument Panel** at the upper and lower helm provides instruments that monitor several aspects of engine operation.



Prep for Engine Start

- Check around outside of vessel for loose lines in water.
- Close the salon doors and ports to keep engine exhaust out, as desired.
- Turn ON the following breakers: Electronics, Autopilot, VHF, Rudder Indicator, Horn

Starting

- Gearshifts must be in neutral.
- On the DC Panel (upper door), right side, Turn ON Stop, Turn ON Port Power (low oil pressure alarm will sound until engine starts), Press silver Port Start until engine starts (alarm will silence), Turn ON Stbd Power (alarm will again sound), Press silver Stbd Start button until engine starts (alarm will silence).
- After the engines start, check for water flowing from the exhausts under the swim platform.
- Engines need only 1-2 minutes warm-up before maneuvering.
- If operating during the summer, turning on the Vent breakers will help cool the engine room.

Engine Room Lights

The engine room has both AC and DC lights. The AC ones are brighter, so if power is available, we suggest using these. The respective breakers are on each panel and are labeled Engine Rm Lts.



Shut Down (See Starting-Stopping Engines Procedure Posted Inside DC Electrical Panel Door)

- Press and hold both "Stopping" buttons until engines stop.
- Turn "OFF" both Power Switches
- Turn "OFF" Stop Sol Switch
- If on, turn off the Vents breakers once engines cool down.

Synchronizing the Engines

Once finished maneuvering and at cruising speed it is possible to synchronize the engines. Here are the steps:

- Get the engine at approximately the same RPMs
- Pull up on the synchronizer switch, <u>located to the right of the throttles</u>.
- Push the port throttle all the way forward this allows the synchronizer to control that engine unrestricted by that throttle.
- Changing throttle on the other controller now controls both engines.

To turn off the synchronizer:

- Pull both throttles back to idle.
- Push down on the synchronizer switch.
- Bring the engines back up to the desired speed.

Important: To change helms the synchronizer must be turned off and turned back on at the new helm. Otherwise, control of the synchronizer is at the wrong helm.



Checking the Engine Oil Level

Our Maintenance Pros will check oil and coolant levels, belt tension and debris in raw water strainers weekly. Charter Guests are NOT required to perform these checks unless an engine alarm sounds. If on a multiple week charter, check engine vitals (oil, coolant) weekly.

With the engines stopped, preferably for an hour or two, the oil level should be in the cross-hatched area on the dipstick located on the inboard side of each engine. Wipe the stick, reinsert, and take reading. The distance between the two ends of the cross-hatched area is about 1.5 quarts. Add only enough oil to bring it up to the middle of the hatched area, say a quart. Use the engine oil stored <u>in the replacement liquids tub in the engine room</u>. The oil fill tube on each engine is located on the inboard side. The cap has a T-handle. DO NOT OVERFILL as the engine will quickly waste excessive lubricant. If oil is required more often than every few days, contact San Juan Sailing/Yachting. Routine checks of the pans under the engines should show no more than an occasional drip.

Inspecting and Cleaning Sea Strainers

Once each week or immediately if the Raw Water Alarm Sounds or if the generator fails to run, check the appropriate sea strainer for eelgrass. The strainers can be easily checked by shining a flashlight through the strainer to observe for debris. While some "fuzziness" from trapped thin growth is normal, you should see the light clearly on the other side; if obscured, you should clean the strainer.

To clean a strainer:

- Close the seacock by closing the thru-hull valve, handle in horizontal position.
- Remove the strainer cap by removing the wing nuts on top.
- Pull out the strainer and rinse out the debris by jostling in a bucket of water. To check for eelgrass blocking the water intake, momentarily open the seacock and water should flow freely into the sea strainer. When reassembling the strainer ensure that the rubber O-ring in the cap is in place and the base of the strainer is positioned in the center of the unit. If the strainer protrudes too far, the cap will not screw on smoothly.
 Centering the lower end of the strainer perfectly can be exasperating. Use the flashlight. When the cap is in place, open the thru-hull valve.

behind strainers as viewed.

Thru-hull valves

Emergency Bilge Valve – **always closed** unless boat is flooding.

• Check for leaks.

Alarm Panel and Windshield Wiper Controls

<u>An Alarm Panel overhead at the lower helm provides information</u> about several anomalies in the boat's systems. Lights illuminate if engine water temperature is high or if oil pressure is low. Lights also indicate when forward or aft bilge pumps are running. Finally, a light indicates that the engine rooms lights are on.

The windshield wiper controls are also here. Turning the knobs activates the windshield wiper; pressing any knob activates the windshield washers for all three wipers.

Loss of Coolant

Check the coolant level in the plastic coolant recovery tank every week. Be aware that the level when the engine is hot is very different than when the engine is cold. It is best to check when the engines are cool. If there is no coolant in the jug add premixed coolant which can be found in the liquids tub in the engine room. Do not fill more than ¼ full in the jug. Check under and around the engine for pink fluid. If coolant is found under the engine, contact San Juan Sailing/Yachting immediately and do not run the engine.

Raw Water Alarm

Engine overheating is a serious problem. An electronic system monitors the temperature of the exhaust sea water from the engines. The system alarms if the water temperature rises above a set point. The **Alarm Panels** (one at each helm) are located right of the lower helm and left at the upper helm. The most common cause of these alarms is eelgrass clogging the seawater intakes.





Thrusters (Bow and Stern)

Temana is equipped with both bow and stern thrusters. These are electric thrusters and can overheat if run too long. Usage should be limited to bursts of less than 10-15 seconds, not continuous. <u>The controllers are on right side of the helms</u>. To turn on the thrusters hold both On buttons down at the same time. Note the system will automatically shut down after 10 minutes or so of non-use, or you can press the off button. (If the thrusters have been on for awhile, and you know you will need them very soon, it is a good idea to turn the thrusters off and then right back on again, so that they do not shut off unexpectedly just when you need them).



Entertainment Systems

Stereo

We have installed a good quality Fusion stereo on the port side of the pilot house overhead panel with speakers in the salon aft cabin in one zone and on the flybridge in a second zone. Please be aware of other boats when you are in harbor and adjust the Fader so that the flybridge speakers are turned off when not in use. The stereo can be controlled from the chart plotters as it is tied into the NEMA 2000 system. To get to the Fusion controls on one of the plotters press Home, then Vessel, then Media – the picture to the right shows what the screen will look like:



- The stereo's power comes from the Stereo breaker on the DC panel.
- To play from your own device (which is what do), select the Bluetooth option and sync with your device. Doing so requires turning on Bluetooth detection.

Starlink/Internet

We have installed a Starlink system on Temana. When running, this system provides high speed Internet throughout the boat. The antenna is mounted on the mast and the breaker to turn it on is on the upper DC panel. The system is accessed via Wi-Fi, the name of the network is Temana SL and the password is inside the front cover of the Reference Manual (white notebook).

This system draws between 50 and 75 watts, so it should not be left on all the time, especially at night. If Wi-Fi calling is activated on your phones and the system is running, you should have full phone service. Be aware, the service is generally reliable, but there are occasional pauses (3-4 secs.) when the unit moves between satellites. Also, it can take about 5 minutes to boot and link up with a satellite. The Wi-Fi will come up after just a few seconds, but there will not be any Internet until things link.

We have provided this system to provide better connectivity, but we have no control over it and, therefore, do not guarantee it will work in all circumstances.

τv

There is a small TV mounted to an arm on the wall on the port side at the rear of the salon. A Roku device is attached to the TV and you only need to use the Roku remote to operate the TV. There are a number of streaming apps installed already; feel free to add more if there are some that you want to use. You will have to log in to each app using your own subscription. The Roku is set to operate in "Guest Mode" so that your login credentials and usage history will disappear if you select your checkout day. Note that sometimes the Wi-Fi is not reliable enough to stream without some buffering.

Please be sure to return the TV to its original position (without the arm extended) before getting underway.

Fuel Tanks and System

- Temana has two fuel tanks. Each engine draws from the tank on the same side of the boat but with the interconnect open the tanks will always stay at approximately the same level.
- The fuel tanks are "rated" for 300 gallons but in reality they hold 285 gallons each. When filled to top of sight glass they hold 250 gal. each. In addition, keep in mind that the last 15-20 gallons of each tank may be below the fuel line, so they are effectively not usable. (Of course, you should not be operating the boat with such low fuel levels in any event).
- There is a cross-over line that must stay open when the engines are operating since fuel returning from the engines goes to a header and then both tanks. So, we do not know which tank really gets the returning fuel. This line is located at the aft end of the tanks near the bottom and is hard to reach.

Refueling

Fueling will go smoothly if you follow these procedures:

- <u>Refueling supplies are stored in the lower</u> <u>helm step</u>. There are fill cap wrenches, oil spill pads, towels and rubber gloves.
- Before fueling, open the valves at the top **and** bottom of each tank's sight tube to allow the sight tube fuel level to match the tank level (see picture). If you have sufficient crew, you may want to station one person in the engine room, perhaps using the Eartec headsets, to monitor these tubes during filling.
- The deck fittings to fill the tanks are located on the side decks outside the salon doors. The holding tank pump-out access is close to the starboard fuel and a water fill is near the port fuel fill. Be sure you are using the correct fill, it should be labeled Diesel.
- Take care of the brightwork. Please don't drag the fuel hose over the teak rails. Pad the rails with the Sunbrella rail covers or a terry cloth towel or drip pads.
- Fuel each tank separately, taking the hose over the **forward** cabin top to reach the opposite side deck fill pipe. Please protect the forward cabin-top and decks; have someone help.



- Start slowly, control the fill rate. This will avoid blow-back/spattering. Please make every effort to prevent fuel drips on the teak deck.
- No need to "top off" the tanks or fill to the deck inlet, just bring the level to top of the sight glasses.
- Be sure to close the sight tube valves (all 4) after the final reading.

Galley

Refrigerator, Freezer

The boat is equipped with two separate refrigeration systems; they both run on DC only..

In the galley is a "Coolmatic" refrigerator with a small freezer box inside. Its control is inside the fridge up under the freezer compartment on the right side.

A second unit, a cold-plate refrigerator or freezer (again depending upon control setting) is under the aft edge of the forward V-berth, easily accessible by removing the cutout cushion. Its control is also inside the front under the lip at the top of the unit.

Coffee

There are few things better than a fresh cup of coffee on a boat in the morning (perhaps the second cup), and there are at least five different ways to make coffee onboard. There is a <u>Keurig coffee</u> maker on the countertop; below the first salon settee seat cushion (by the icemaker) are a large coffee maker (10-cup), small



French Press, and a cone for pour-overs, along with a coffee grinder if you wish to make fresh grounds. If all else fails, you can always make a cup of instant, using either the stove or microwave to heat water. Coffee mugs and supplies (i.e., filters and any coffee left by us or the last guest) are in the compartment atop the icemaker.

Microwave

The Princess microwave operates conventionally. It should only be used for short-term heating or reheating (less than 5 minutes) unless the generator is "On" or the boat is plugged into shore power.

Stove

The propane stove has three top burners and a thermostatically controlled oven/broiler. Please keep in mind that propane gas is heavier than air; gas escaping and collecting in the boat's lowest spot, the enclosed bilges, becomes an explosive safety hazard. For this reason, the propane tank itself is housed above the galley in the left seat on the flybridge.

There is a manual gas valve on the propane tank which we normally leave open. There is also a second valve, a solenoid valve, in the flybridge seat propane line immediately after the manual valve. This electric valve is controlled by propane sensor and controller located to the right of the stove (picture to the right). The on and off buttons on the bottom control the flow of propane.

L.P. GAS CONTROL & DETECTION SYSTEM L.P. GAS CONTROL & DETECTION SYSTEM ALARM 1 ALARM 2 ALARM 3 ALARM 1 ALARM 2 ALARM 3 ALARM 1 ALARM 2 ALARM 3 DETECTION ON DETECTI

In addition, each stove burner including the oven is fitted with a thermocouple, a heat-sensing device that also controls the gas flow. When the gas supply is turned on to a burner, the gas will not flow unless (a) the burner is already on, or (b) the cook is holding the valve in the "light" position.

To Light a Burner:

- The propane valve circuit breaker in the DC panel must be "On".
- Turn on the controller.
- Turn the knob for your selected burner to "light" (or a little bit past "light") and press and hold it in, then use one of the butane lighters in the galley to light the burner (we no longer use the "Ignite" button).
- After the burner lights, continue to hold the knob in for a few seconds while the thermocouple heats up. Then adjust the flame.

To Light the Oven:

The operator must light the oven "pilot light" when the oven is to be used **but first light a top burner and let it burn for a minute** or so to ensure that air is purged from the gas lines.

• As above, ensure that the "Gas Stove" circuit breaker and controller are "On".



- Locate the pilot light assembly at the right front under the oven.
- Turn the oven control to "light" (or just beyond), press and hold the red "Push to Light" button, use a barbeque lighter (located in the galley drawers) to light the pilot light. Hold the red button in for another fifteen seconds after the pilot is lit to allow time for the thermocouple to heat up. If the pilot will not stay lit, relight the pilot and hold the red "Push to Light" button in longer!
 - \circ Note: The oven burner will not light immediately but will do so after a 30-45 second delay!
- Adjust the thermostat to the desired temperature.
- After baking, you may leave the control in the "light" position if the oven will be used again within an hour or so. The pilot light will remain on.
- When finished with the oven turn the control "Off". The pilot light will go out. If finished with the stove, turn "Off" the propane controller and the Stove breaker in the AC panel.

Ice Maker

<u>There is an ice maker in the salon located aft of the pilothouse</u> <u>door near the helm</u>. It runs only on AC power so the boat will need to be on shore power or have the generator or inverter on. Making ice using the inverter should only be done when running the engines to prevent discharging the batteries. The ice maker is plugged into an outlet powered by the port outlet breaker on the AC panel, which is normally on. Therefore, it is important to turn the switch on the front of the unit off when it is not being used (see picture). Once ice is made best to place it in the freezer, do not leave in ice maker.



Generator

The ship's Onan Generator provides 8,000 watts (ca 67 Amps) of AC power and is mainly used for battery charging, water heating, and powering the freezer and ice maker. The generator is in the engine room. Its oil and coolant levels are checked before each charter by Temana's Maintenance Professional. Access to the generator is by unlatching and removing the starboard side panel on the sound-shield cabinet. The generator sea strainer should be checked (using a flashlight) every few days to be sure it has not accumulated substantial debris, especially if the generator has been run for extended periods at anchor. **Starting the Generator**:

- 1) <u>Turn on the "Generator Breaker" at the very top right of the</u> AC panel. (difficult to see)
- 2) Press and hold /the "Heater" button for 15 seconds (this energizes "glow plugs"). THEN RELEASE IT.
- 3) Press the "start" switch and hold until you hear the engine start.
- 4) Check the generator exhaust <u>(underwater, stern)</u> to confirm that cooling water is being circulated.
- 5) After a brief warmup of a minute or so, switch the AC Power Selector, in the AC power panel, to "Gen". You should see the "AC Supply On" light go on!
- 6) Turn ON the Master Switch

Stopping the Generator:

- 1) Switch the AC Power Selector to "Off". This removes the load from the generator.
- 2) After at least a minute or so, to allow the generator to cool down, press and hold the "stop" switch until the generator comes to a complete stop. **TURN OFF THE GENERATOR BREAKER**!! (Hard to see at very top right of AC Panel.)

3)

Generator Problems:

The generator monitors its own operation! It has two fault-detection systems: one of these will detect any loss in **oil pressure**, the other detects **overheating**. If either condition occurs, the generator will shut down and will not restart.

If this occurs, you can confirm that the cause was such a fault by looking on the aft starboard side of the generator where you will see a "fault" button (red arrow in photo). If a fault has occurred, the button will pop out; it is normally flush with the panel if there is no fault. If the generator stops, check the sea strainer for debris and clear it; then, with the cap off, open the seacock and ensure that seawater flows freely from the top of the sea strainer. If the generator will not restart, contact San Juan Sailing/Yachting for assistance.





Heads and Holding Tanks

Toilets – Please do not put anything in the toilet that has not been eaten. Experienced sailors deposit toilet paper in a wastebasket, not down the toilet because paper tends to clog the system. There are special was-lined bags for this purpose supplied by San Juan Sailing in each head.

Both heads have Dometic electric auto-flush toilets. Operation requires that the <u>breakers to the right of the</u> <u>lower helm be switched on (see picture below)</u>. Both flush with fresh water, so the <u>water pump will also need</u> to be on, left side of DC panel labeled F.W. Pump. Both toilets flush into one holding tank.

The toilet controls have the following effects:

- Left Button Flushes the toilet (adds water and pumps it out at the same time).
- Right Button Up add water, Down pumps the water out.

Regardless of which button you use, when you do flush you should do so for several seconds, to ensure that the material makes it way down into the holding tank.







Holding Tank – The holding tank holds 30 gals, so under normal usage emptying every couple of days will be necessary. Capacity can be extended by less frequent flushing (i.e., at night). The level indicator is on the left side of the lower helm (picture to right). We would not want to tempt the fates by letting the tank become completely full.

Emptying the Holding Tank – can be done one of two ways:

- **Pump-out to Shore** If you are pumping out, the deck fitting is on the starboard side just aft of the pilothouse door. There are no valves to open.
- Dumping Overboard (not legal in the U.S.)
 - Open the thru-hull for the macerators next to the starboard engine shaft (pictured right). This is extremely important – running the macerator with this valve closed will invert the valves in the pump and it will not work without repair.
 - <u>Turn on the Macerator breaker (on the DC panel)</u>.
 - Turn the Macerator timer on, on right side of pilot house helm. Turning this timer all the way should provide enough time to empty a full tank. Turn off breaker and close thru-hull once timer has finished.



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

Heater (Cabin)

Temana has both a diesel heater and reverse cycle air conditioning. Both systems can be used to heat the boat and AC system can be used to cool it.

Espar Furnace

The boat is equipped with an Espar Diesel Forced Air Furnace, a very compact furnace that burns the same diesel fuel as the engines. The fuel comes from the starboard fuel tank, but it uses a negligible amount of fuel, about a pint each hour when running. The on/off rocker switch and thermostat are mounted just above the lower helm seat by the starboard door to the salon. (I green light = On: O red= Off). As an aid in setting the thermostat, a "click" can be heard as the dial is moved past the present room temperature. When first turned on this unit takes a few minutes to warm up before you will feel or hear anything. Please be patient, turning it on and off repeatedly will cause it to error out and stop working.



While the furnace requires only modest DC power to run the fans and furnace blower; you may wish to limit furnace use during sleeping hours unless the boat is on shore power.

CAUTION: <u>The furnace exhaust is on the starboard side of the hull</u>. It can be very hot! NEVER place fenders in front of it nor let anything contact it or block it (for example, while rafting).

Reverse Cycle AC

There are two units onboard, one in the forward cabin and one in the rear cabin. The rear unit also heats or cools the salon. These units are basically heat pumps and must have AC power to operate. They draw too much power to operate off the inverter. Therefore, shore power must be available or the generator must be running, and please note that one unit may max out a 30-amp shore breaker, or very nearly so. The breakers are on the AC panel and are labeled Aircon and Fwd Aircon. Sea water is used as the heat sync for this system so when it is running a steady stream of water will be exiting the boat, both fore and aft.

<u>The controllers are in the two cabins</u> and one is pictured to the right. There are controls to change mode (heat, cool or fan only), set the temperature and to adjust the fan.



Lighting

Interior Lighting

- Breakers for interior lights are on the DC panel. They should be left "Always On".
- Light switches are located by each door to the salon and on or near the various lights.

Navigation and Instrument Lights

The Navigation Lights and Instruments Lights switch (NAV & INST LTS) Is located on the DC Panel. Anchor Light

The Anchor Light switch is located on the DC Panel. The Anchor Light should be illuminated from dusk to dawn while at anchor.

Deck Lights

To illuminate the deck, very bright downward facing lights are mounted under each spreader. This switch is located on the DC Panel labeled SPREADER LTS.

Spares, Tools, Engine Liquids

Hand Tools: Floor of hanging locker in aft cabin.

General Spare parts: In plastic bin below second cushion on long side of salon settee.

Engine spares: In plastic bin in Engine Room.

Engine Liquids in Liquids Tub in engine room, i.e. Engine, generator and transmission oil, premixed coolant, distilled battery water (all fluids are checked routinely by our Maintenance Professional).

Storage

Food: Galley cabinet; compartments under windshield; drawers by icemaker; compartments below salon settees; floors of hanging lockers. We have also provided two large soft-sided canvas totes kept under the side chairs in the salon for additional storage.

Wine: The compartment atop the icemaker has three deep cubbies that can hold wine or other bottles. **Clothes:** Forward staterooms -- hanging locker and drawers: Aft stateroom – hanging locker and drawers, including under bed.

Fenders: Forward-deck brackets (for two smaller fenders); side-deck walkways while underway; aft-deck bracket.

Dock Lines: Lockers at bow or on sundeck.

Water (Potable)

The water pump breaker (F.W. PUMP) is located on the DC panel. It can be left ON for the duration of the cruise. Fresh water is available on demand in the galley, both heads and showers, a shower on the aft deck and a green hose in the engine room.

Water Heater – Hot water is produced in two ways:

- a) Connected to shore power or generator with the WATER HEATER breaker on the AC panel flipped ON.
 - b) Whenever the port engine is running.

The heater is insulated well enough that it should keep hot water overnight without power.

Water Fill and Measurement – There are two water tanks, located in the forward and aft bilges. These are filled by using a fill pipe on each, at port forward and midships on the side deck (*be sure to open the correct deck fitting!*). Although the tanks are connected to empty uniformly when used, *they must be filled individually, and the aft tank must be filled first*, because of the way the tanks are situated. Please pass the water hose through a hawsehole, not over the teak rails. Water tank levels can be seen on the screen on the helm overhead, to the left of the two chart plotters. Press the < or > arrow on the screen to get to this information. The two water tanks together provide about 240 gallons of water.



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