



Lady Georgia

Operations Manual

May 10th, 2024

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Introduction

Welcome Aboard! Every successful voyage begins and ends with proper planning. Familiarize yourself with the various systems outlined in this manual. This boat has many features designed for your comfort, convenience and safety. Proper use and thoughtful care will ensure that your trip will be both safe and relaxing.

Lady Georgia is a 1996 Queenship, wide-body, cockpit, pilot house motor yacht. She is an unusually comfortable motor yacht. She is 66' in length. The yacht's interior is exceptionally well equipped and furnished and is very modern and comfortable throughout.

The living areas of the boat have large windows for maximum viewing opportunities while underway or at the dock. The master and VIP staterooms have their own TV with DVD and remote controls.

Salon: She features a very large aft salon, which includes a contemporary dining table, reclining Stress-Less chairs, an office cabinet with printer, and a cocktail bar & sink. There is a large smart TV with various apps connected via Starlink and T-Mobile 5G wireless internet. The salon has a large, custom-built, "L" shaped couch that can be easily converted to a king-size bed for more sleeping capacity.

Flybridge: There is a large flying bridge which is also accessible via two stairways adjacent to the pilothouse, the forward portion is covered by a canvas top and is enclosable for the comfort of the yacht's captain and guests who seek shelter from wind and weather. The large boat deck located in the aft portion of the flying bridge deck has a large seating area with tables and is where the BBQ, sink, and rigid inflatable dinghy is cradled.

Master Stateroom: Accessed via its own staircase in the salon, this stateroom has a large king-size bed and its own separate head and shower. There are lots of drawers and two hanging closets in this stateroom for storage.

Forward Suite: Located in the bow of the yacht, the Forward Suite includes two staterooms. One stateroom features a large queen-size bed, and the other stateroom contains two bunk beds. Each of these staterooms has a lots of drawer storage. A large head with a glass-enclosed shower serve both of these staterooms, with access from the both the Forward Stateroom and the hall. An Asko clothes washer and dryer are also located in this hall.

Galley: The well-equipped galley is located between the Pilothouse and the salon on the pilothouse level. It features a Subzero Refrigerator /Freezer, range top, electric oven, convection microwave, Bosch dishwasher, disposal, compacter and a settee for three people.

Cockpit & Swim Platform: A pair of large sliding doors closes the main salon from the aft deck cockpit and swim platform. The aft deck is the location of the cockpit sink, icemaker, stairs to the flying bridge and engine controls for docking. The swim step is accessed through a gate in the transom end of the aft deck enclosure via a ladder on the transom.

Climate Control: She is cooled and heated with chill water refrigerant systems and is also heated with a diesel fueled furnace and small electric heaters. She also has an automated water-maker to refill the fresh-water tanks while cruising. There are several tool bags and boxes, with a reasonable complement of tools, located in the lazarette.

Navionics Package: State-of-the-art PC with the TimeZero navigation application, as well as a ship's iPad with multiple navigation & weather apps, for your peace of mind while underway and to make trip planning and navigating your way through the islands a breeze and very accurate.

Network Equipment: She is equipped with strong local WiFi network connected to the internet via high-speed Starlink and T-Mobile 5G wireless services.

Key Information

Identification

| | |
|------------|----------------------------------|
| Make | 66' Queenship (1996) |
| Type | Wide body pilothouse motor yacht |
| USCG Doc # | 1039480 |
| HIN | QCWFF001M94D |

Size & Weight

| | |
|--------|---------------------------------------|
| Length | 66' |
| Beam | 17' 10" |
| Draft | 5' 6" |
| Weight | 78,000 lbs. (39 tons) |
| Anchor | 30 kg Bruce anchor with 450' of chain |

Capacities

| | |
|--------------|------------------------------------|
| Fuel Tank | 1,025 gallons |
| Water Tank | 772 gallons (336 gallons each) |
| Water Heater | 30 gallons |
| Water Maker | 78 gallons/hour; 1,850 gallons/day |

Propulsion

| | |
|--------------|---|
| Engines (2) | 800 hp Caterpillar 3408 (D1) |
| Cruise Speed | 1,000 rpm (9 knots, 10 g/hr) to 1,500 (12.7 knots, 26 g/hr) |
| Top Speed | 2,200 rpm (22 knots, 84 g/hr) |

Dinghy

| | |
|-----------|----------------------|
| Make | 14' Novurania (1998) |
| Motor | 50 hp Honda (2005) |
| WA Reg # | WN 7070RH |
| Hull ID # | WNZ13345G898 |
| Davit | 1,500 lbs capacity |

Operational Checklists

Arriving at the Boat

Salon

1. **Inverter Source Switch** – verify set to “Inverter” (set to “Shore Power” for winter watch only).
2. **AC panels** – turn on all breakers necessary for use.
3. **Heaters off** – turn off electric portable heaters if planning to use diesel heater.
4. **Window blinds** – open all.

Pilothouse & Galley

1. **DC Panel** – turn on all breakers necessary for use.
2. **Side doors** – unlock.
3. **Window blinds** – open all.
4. **Round heater** – turn off heater located underneath left front windows (summer only).
5. **Refrigerator fan** – make sure it is turned on (switch on upper right side). Leave “on” when leaving boat.
6. **Refrigerator icemaker** – If not already in, put ice container into fridge (this activates the icemaker).

Flybridge – Inside

1. **Remotes** – stowed in galley.
2. **Heaters** – stowed in galley.

Master Berth

1. **Heaters off** – round heater in bathroom; space heater in master berth (summer only).

Forward Berth Area

1. **Heaters off** – round heater in bunk berth & bathroom; space heater in VIP berth (summer only).

Cockpit

1. **Water tank** – top off with water.
2. **Water hose** – connect hose between dock faucet and the hook-up port. Hose may be stored in locker on side of swim platform.
3. **Icemaker** – turn on, and empty tub. Use only when hooked to shore power.

Lazarette

1. **Diesel heater** – turn switch on by pulling out (if planning to use).

Engine Room

1. **Heater off** – turn off and unplug extension cord from outlet (summer only).
- 2.

Starting the Engines

Engine Room Inspection

1. **Air compressor** – verify running and pressurized (runs air doors, horn, etc).
2. **Air doors** – Open for engine room ventilation (switch in lazarette next to engine room door).
3. **Bilges** – check for water.
4. **Fuel quantity** – check level with sight tube, use yellow handle to equalize.
5. **Sea strainer** – inspect units outboard of each engine.
6. **Fresh-water coolant level** – inspect expansion tanks on top of engines forward. With engines cold, they will be very low.
7. **Fuel filter valves** – check yellow handles, verify fully horizontal.
8. **Oil** – check level (dipsticks are on the side of the engine, near the bottom center).
9. **Transmission oil** – check level.
10. **Generator oil** – check both.
11. **Belts, hoses and fuel lines** – check general condition.
12. **Engine room lights** – leave all on.
13. **Seal door** – secure all three latches on door to engine room.

Engine Startup

1. **Breakers** – verify all breakers (AC & DC) required for operation are on.
2. **Salon door** – shut to prevent exhaust smoke from entering.
3. **Controls** – neutralize throttle/gearshift controls.
4. **Start starboard engine** – turn key to “run;” push in button on base of throttle controls to select. Turn key to “start” to start engine.
5. **RPM** – verify idle speed is 600 RPM.
6. **Oil pressure** – check.
7. **Start port engine** – repeat steps 4-6 with port engine.
8. **Monitor** – every 5 min, scan temperature gauges, voltmeter, oil pressure, transmission oil pressure, etc.
9. **Stabilize** – avoid running the engines for less than 30 minutes.

Pre-Departure

1. **Throttle controls** – activate the station you plan to operate (push button on base of throttle unit)
2. **Helm wheel** – center rudders.
3. **Trim tabs** – verify up.
4. **Lights** – turn on navigation lights (if needed).
5. **Transmission** – check forward and reverse while still tied to dock.
6. **Bow thruster** – verify operational.
7. **Lines** – untie all except one bow, stern and spring (to prevent the boat from backing up into the dock).
8. **Crew check** – verify crew is ready to depart.

Departing the Marina

Trip Preparation

1. **Fuel** – verify diesel for the yacht, gasoline for the dinghy, and propane for the BBQ.
2. **Water tanks** – top off.
3. **Tides and weather** – check.

General Preparation

1. **Breakers** – verify all breakers (AC & DC) required for operation and navigation are on.
2. **Generator** – start one, run with no load for 3 to 5 min, select with main power selector.
3. **Shore power** – retract cable (if at shore).
4. **Swim ladder** – remove fender.
5. **Portholes** – close all 10 portholes (master has 6, bunks have 1, VIP berth has 3).
6. **Drawers & doors** – secure all doors & drawers, including refrigerator hook.
7. **Dinghy** – uncover, put key in ignition, and verify strapped down.
8. **Anchor latch** – verify it is locked in place to keep anchor from dropping.
9. **Windshields** – remove canvas from pilothouse front windows.
10. **Flag & burgee** – deploy.

Navigation Preparation

1. **Navigation equipment** – turn on, including both pilothouse and flybridge.
2. **Nav keyboard** – put at helm.
3. **Paper charts** – locate relevant charts and place at helm.
4. **VHF radios** – turn on channel 16, set squelch & volume.
5. **Route** – program desired route into navigation software.
6. **Log entry** – note start time, previous fuel usage on Flowscan gauges, and intended destination.

Pre-Departure

7. **Throttle controls** – activate the station you plan to operate.
8. **Helm wheel** – center rudders.
9. **Trim tabs** – verify up.
10. **Lights** – turn on navigation lights (if needed).
11. **Transmission** – check forward and reverse while still tied to dock.
12. **Bow thruster** – verify operational.
13. **Lines** – untie all except one bow, stern and spring (to prevent the boat from backing up into the dock).
14. **Crew check** – verify crew is ready to depart.

Post-Marina Stop

1. **Prepare** – stop the boat.
2. **Lines & fenders** – stow and secure.
3. **Canvas** – verify everything is zipped and secure.
4. **Radar** – turn on.

Arriving at the Marina

Pre-Marina Stop

1. **Lines & fenders** – deploy; includes bow line tied off amidship with slip knot.
2. **Trim tabs** – up (hold for 5 seconds).
3. **Doors & panels** – open aft stairway hatch, side panel, cockpit door panel.
4. **Radar** – turn off.
5. **Transmission** – check forward and reverse.
6. **Bow thrusters** – verify operational.
7. **Wireless Intercom** – turn on and put on.

Post-Arrival

1. **Lines & fenders** – verify proper deployment.
2. **Shore power** – connect and select as source.
3. **Generator** – turn off after 3 to 5 minutes of no-load, cool-off operation.
4. **Water tank** – top off.
5. **Water supply nozzle** – connect hose and pressurize to boat.
6. **Lights** – turn off navigation lights.
7. **Dinghy** – re-cover (dry first if possible).
8. **VHF radios** – turn off.

Leaving the Boat

Cleanup

1. **Dishes** – wash and stow
2. **Beds** – wash or stow dirty sheets in bunk berth dirty cloths basket; replace with clean sheets
3. **Trash** – empty all, including compactor
4. **Vacuum** – all carpeted areas and galley floor

Dock

1. **Boat position** – verify boat is correctly positioned (extra distance for winter).
2. **Dock lines & fenders** – verify all lines and fenders are secure.

Engine Room

1. **General inspection** – look for anything unusual (oil, fuel, belts, etc.).
2. **Electric space heater** – plug in and turn on (winter only).
3. **Davit breaker** – switch to “off”.
4. **Air doors** – close using switch in lazarette, winter only. Leave air compressor on.
5. **Lights** – turn off both AC and DC lights. Leave internet camera light on.
6. **Engine room door** – close, including all three latches.

Lazarette

1. **Diesel heater** – turn push-pull switch off.
2. **Lights** – turn off both AC and DC lights.

Cockpit

1. **Water tank** – top off with water.
2. **Water hose** – stow in swim platform locker; put cap on hook-up port.
3. **Icemaker** – turn off, and empty tub.
4. **Canvas** – verify that all is zipped and secure.

Flybridge – Aft Deck

1. **Hatch** – close deck hatch between cockpit and flybridge and insert pipe fitting lock.
2. **US Flag** – remove and stow in galley.
3. **Dinghy** – verify straps are in place, canvas cover is installed, and controller stowed.
4. **Deck chairs** – cover each with canvas cover.
5. **BBQ** – verify gas tank valve is off, door latched.
6. **Fenders** – verify lines are securely tied.

Flybridge – Inside

1. **Canvas panels** – verify that all is zipped and secure.
2. **Trash cans** – empty.
3. **TV & remotes** – remove and stow in galley.
4. **Heaters** – stow in galley.
5. **Instrument cover** – install.
6. **Sun shades** – install.
7. **Helm chairs** – cover with chair covers.
8. **Canvas covers** – install on tables and bench seats (winter only)

Foredeck

1. **Burgee** – secure with burgee sock and tie string.
2. **Anchor** – ensure latch is locked.
3. **Hose** – ensure anchor wash-down hose is stowed.
4. **Canvas** – ensure cover above deck cushions is secure.
5. **Windshield covers** – install and ensure all snaps in place.
6. **Lines** – verify dock lines are securely tied to cleats.
7. **Fenders** – verify lines are securely tied.
8. **Canvas panels** – verify that all is zipped and secure.

Forward Berth Area

1. **Portholes** – close all “tightly,” including 1 in bunk berth, 2 in VIP berth, and 1 in VIP bathroom.
2. **Heaters on** – round heater in bunk berth & bathroom; space heater in VIP berth (winter only).
3. **Lights** – turn all off.
4. **Washer & dryer** – verify off and empty (ie, no wet clothes).
5. **Doors & drawers** – open for ventilation.

Pilothouse & Galley

1. **Side doors** – lock.
2. **Window blinds** – close all.
3. **Round heater** – plug in and turn on underneath left front windows (winter only).
4. **Dishwasher** – verify off, empty if dishes are washed.
5. **Refrigerator fan** – leave “on” (switch on upper right side) Operates on timer 12-hours per day.
6. **Grey-water tanks** – empty.
7. **Engine keys** – remove and stow.
8. **Lights** – turn off all.
9. **DC Panel** – turn off all breakers except those labeled “leave on”.
10. **Refrigerator icemaker** – remove ice container from fridge (winter only; this de-activates the icemaker).

Master Berth

1. **Portholes** – close all, including 4 in main room and 2 in bathroom.
2. **Heaters on** – round heater in bathroom; space heater in master berth (winter only).
3. **Lights** – turn all off.
4. **Doors & drawers** – open for ventilation.

Salon

5. **Heaters on** –space heater below TV (speed = 1, temp=1/3rd).
6. **Lights** – turn all off.
7. **AC panels** – turn off all breakers except those labeled “leave on”.

Final Check

1. **Salon door** – lock, stow key.
2. **Cockpit door** – close & latch, canvas zipped & secure.
3. **Visual check** – look at all lines, fenders, canvas, lights, etc one last time.

Internet

Connection Instructions

Local WiFi – connected to the internet via Starlink and T-Mobile 5G wireless internet.

- SSID: Lady Georgia
- Password: Queenship

Printing

- HP Color LaserJet Pro MFP M281fdw
- If needed, download driver from internet

Winterization List

1. **Water system** – remove dock hose. Turn off fresh water pump. Open faucets in the master bathroom to drain the water system.
2. **Cockpit icemaker** – open faucets to enable the exposed hose lines to drain below. Close valve located underneath the bar sink on the upper right side. Remove the grill at the bottom of the icemaker, remove the water supply line, and replace the grill. Latch the icemaker door in the slightly-open position to maintain ventilation.
3. **Cockpit sink** – open faucets to enable the exposed hose lines to drain below. Close valve located in compartment below the sink.
4. **Faucets under cockpit sink** – open faucets to enable the exposed hose lines to drain below. Close valves that supply the faucets.
5. **Flybridge sink** – open faucets to enable the exposed hose lines to drain below. Close valves located above the ceiling panel in the salon above the reclining chair (ie, the ceiling panel between the chair and the wall chart that does not have a lighting fixture in it).
6. **Anchor washdown faucets (fresh & seawater)** – open faucets to enable the exposed hose lines to drain below. Close valves located in the compartment behind the head (toilet) in the VIP berth. Valves are on the side of the hull.
7. **Engine room ventilation doors** – ensure that they are closed. Air compressor must be on while closing.
8. **Dehumidifier** – get dehumidifier from the lazarette, set up on kitchen counter, and turn on.
9. **Heaters** – put heaters in each room and set to lowest fan and temp settings.
10. **Canvas covers** – install canvas covers on the flybridge instrument panel, the three flybridge chairs, the two deck chairs, the dinghy and the winch.

Winter Watch

Systems

1. **Engines** – run for 30+ minutes (check oil & open airdoors first).
2. **Generators** – run for 30+ minutes.
3. **Water maker** – flush for 15+ minutes (from fresh tank to overboard).

Things that Leak

1. **Bilges** – check.
2. **Bilge pumps** – check.
3. **Shafts & packing glands** – check.

Interior

1. **Space heaters** – verify running and set correctly (fan speed = 1; temp level = 1/3rd).
2. **Portholes** – verify closed and not leaking.
3. **Blinds** – verify closed.

Electrical

1. **Breakers** – turn all “off” except those labeled “leave on”.
2. **Battery** – check level on AC Panel.

Exterior

1. **Canvas** – verify everything is fastened and zipped.
2. **Lines & fenders** – verify ties are secure, lines aren't chafed, fenders inflated (compressor in lazarette).
3. **Boat position** – verify that the boat will not bump into rear dock if winds are strong.

Close-up

1. **Airdoors** – closed (winter only).
2. **Ignition keys** – stowed.
3. **Blinds** – closed.
4. **Breakers** – turn off all breakers on the AC & DC panels except those labeled “leave on”.

Emergency Equipment and Operation

LADY GEORGIA has a variety of emergency equipment and abilities. This paragraph is only intended to be a brief and partial summary of them.

Federally-Required Safety Equipment

Overview

The US Coast Guard publishes “A Boater’s Guide to the Federal Requirements for Recreational Boats”. The list below was created from this publication.

Coast Guard Boarding

The US Coast Guard can and will board vessels on a regular basis as a safety check to verify compliance with these regulations. If this happens to you, please provide them this section as it explains where everything is located.

Documentation & Registration

The yacht is a “documented vessel” with the US Coast Guard with a documentation number of 1039480. The Certificate of Documentation is located in the Lady Georgia Documentation Binder in the drawer just left of the pilothouse helm. The documentation number is displayed in the lazarette on the starboard wall. The Hull ID is QCWFF001M94D.

Documented vessels are required to display their ship name and hailing port on the hull. This yacht is labeled with “Lady Georgia, Boise Idaho” on the stern of the vessel.

The vessel is registered with the State of Washington under its document number. The registration is located in the Lady Georgia Documentation Binder in the drawer just left of the pilothouse helm. The annual decals are located on the starboard and port windows of the pilothouse.

The dinghy is registered with the State of Washington under the registration number WN-7070RH. The Hull ID is WNZ13345G898. Note that the old Hull ID was PKD10762J98. The old HID placards were removed and the new Hull placards were installed on the stern of the hull as well as inside the compartment underneath the midship seats. The registration is located in the compartment underneath the helm. A copy of the registration is located in the Lady Georgia Documentation Binder.

Life Jackets

All recreational vessels must carry one wearable life jacket for each person on board. Vessels over 16 feet must also carry one throwable (Type IV) device.

The vessel’s main life jackets are located in the flybridge in the compartments underneath the starboard seats. Additional life jackets are located in the dinghy and just inside the salon door. For larger groups of people, additional lifejackets are stored in the bunk berth and should be brought up to the flybridge for easy access.

Note that children under 13 years of age are required to wear a life jacket at all times unless they are either below deck or within an enclosed cabin. The children must wear life jackets that are approved for their specific weight category (ie, less than 30 lbs, 30-50 lbs, less than 50 lbs, or 50-90 lbs).

There are 2 throwable life rings – one on the aft deck and one in the cockpit.

Fire Extinguishers

Lady Georgia carries several manual and automatic fire extinguishers. The engine room and lazarette have automatic/manual fire extinguishers. Hand operated extinguishers are located in marked cabinets around the yacht. Location of fire extinguishers is indicated by “red Labeling” on cabinet doors.

The dinghy also carries a fire extinguisher.

USCG requires either 1) one B-II and one B-I, or 2) three B-1 fire extinguishers.

Signaling Equipment

Visual Distress Signals Required to carry. A full set is located on the ship and the dinghy.

Handheld Radios: These radios can be useful in certain emergency situations.

Hailing System: The hailing system is built into the pilot house VHF radio (review VHF manual for operation).

Fog Horn System: An automatic fog horn system is built into the pilot house VHF radio. The system will sound 2 blasts every 3 minutes (review VHF manual for operation).

Ship’s Horn: It is good to understand the meaning of various horn signals. For example, 5 blasts indicate an imminent collision. This system uses air from the air compressor to operate the dampers. Ensure that the breaker on the 120/240 panel is on and that 120AC available to charge the air compressor

Ship’s Bell: Stored in the lower cabinet just left of the pilot house helm.

Ship’s Whistle: Located in the pilot house chart drawer and on the tender and on many of the lifejackets.

Portable Air Horn: In the cabinet of the pilot house port side cabinet.

Flares and Flare Guns: This equipment is found located in an orange cylindrical container in the salon wet bar cabinet below the wet bar sink. A similar kit is located in the Dinghy.

Distress Flag: Located in the tender flare kit.

Personal Safety Equipment

First Aid Kits: One is located in the forward starboard cabinets in the salon. A more complete kit is under the rear cushion of the sofa in the salon.

Life Raft: Located on the boat deck is a 6 person life raft. The tender can also act as a very effective life raft.

Life Jackets: Numerous life jackets (approximately 30) are onboard the LADY GEORGIA. They are located in the fly bridge wet bar cabinet and beneath the starboard side flybridge settee. A couple of spare life jackets are also located in the forward Dinghy locker.

Life Rings: Located on the cockpit bulkhead and on the starboard rail of the aft flybridge.

Man Overboard LifeSling: Located on the starboard side rail of the aft flybridge, and secured to the boat. It may also prove effective to learn the Williamson man overboard procedure. Use Davit cable winch to lift disabled or heavy persons out of the water onto the swim platform.

Man Overboard Position: The location can be marked and remembered by the GPS by clicking on the MOB icon on the Nobeltec navigation screen.

Coldwater Immersion Suits: Four are located beneath the port side settee on the fly bridge. Extra large adult (1); large adult (2); and small adult (1).

Emergency EPIRB Beacon: Can be found at the rear centerline of the aft portion of flybridge below the railing. Will auto deploy and turn on if immersed, but also can be manually removed and taken with in the Dinghy or Life Raft.

Foul Weather Gear: In the master and VIP stateroom closets.

System Information

Propulsion Systems

Diesel Engines

Two 800 hp diesel engines, Caterpillar 3408's.

Props

Two "Osborn" props, 3531's

Bow Thruster

The bow thruster motor and batteries are located in the VIP bilge. The bow thruster can be operated from all three control stations through a breaker in the 12/24 VDC panel. It is quite powerful and should be operated in medium short bursts. Extensive continuous use will over heat, cause the motor to trip out on high heat, and possibly damage this unit.

Stabilizer

The stabilizer is used to minimize boat roll while underway. The pilothouse console has an on/center/off rocker switch which is powered through a breaker in the adjacent 12/24 VDC panel. Do not operate the system in a marina or shallow waters and 'center' it before shutting it down.

Fuel System

There is a single 1,025 gallon tank on board which supplies fuel to the main engines, the two generators and the furnace. Never let it run lower than ¼ full. The fuel filler caps are located on either side of the yacht, on the stairs near the pilothouse doors. The overflow is located on the hull below the port fuel filler cap.

In the unlikely event that you should run a fuel tank dry or air enters the fuel system by some other means, the engine will not re-fire or run until the air is purged from the system to that engine. It will be necessary to, first of all, find the source of the air and solve that problem. Each unit has a hand pump to purge the system and prime the engine.

Each engine, including the two generators, has a Racor primary fuel filter. If it should become necessary to change fuel filters due to contaminated fuel, it will also be necessary to bleed all air out of the fuel system to enable that engine to start and run. For the main engines, it will be necessary to utilize the priming pumps described above.

Also, in each case, there is a quarter-turn fuel shutoff valve ahead of the filter. If the tank being utilized has sufficient fuel in it, you should be able to gravity-fill the fuel filters by opening the quarter-turn valves (which must be open to allow fuel to flow through the filters) ahead of the fuel filters and allowing fuel to flow into the filters until completely full. Allow all air to bleed out through the bleed plug in the top of the filter top before tightening it.

Air Compressor System

The air compressor is used needed for the ship's horn and to operate the engine room engine air inlet doors. The engine room engine inlet air doors are "held up" in the "closed" position using air pressure. However, if the compressor is turned off and the pressure bleeds off, the engine inlet air doors will reopen by gravity once air pressure is lost. An air hose and air chuck are also available in the lazarette for any other purpose.

NOTE: Always turn the air compressor breaker in the 110/220v panel in the Salon to "on" before leaving the dock or anchorage. If the air compressor is not turned on and pressurized, the ship's horn will not operate and thus not available when needed in an emergency situation. If running on house battery power only, proper operation of the ship's horn may be limited or non-existent.

Navigational Systems

Navigation Computer

The Navigation computer is located in a cabinet just to port of the pilothouse helm.

Navigation Software

The navigation package is driven by Nobeltec Admiral MAX Pro, Suite 10.0. It includes GPS and the most recent, high-tech, electronic chart-reading software with 3D bathymetric charts. The onboard computer system is linked to the Robertson autopilot. In all, this system makes trip planning and point-and-click navigation very straightforward and easy.

The displays at the pilothouse helm are duplicated at the control station on the flybridge, where it can be run remotely via the wireless keyboard and mouse. The pilothouse and flybridge monitors are state-of-the-art daylight flat screens mounted so as to be very easily viewed in all lighting and weather conditions.

The Navionics Package also includes an ARPA (ARP-10) system which enables targets that utilize AIS (Automatic Identification System) to be plotted on and tracked on the computer monitors. The AIS System receives vessel identification, speed and direction, size and weight, etc. data through the Pilot House VHF radio. Refer to the manuals and system documentation for more detailed operational data.

GPS

The primary GPS source for the Navigation PC is a GPS puck located inside the canopy behind the pilot house monitors.

The GPS is considered a navigational aid. Use it, but do not rely solely on it. The compass, charts, dividers, etc. are considered safe and accurate secondary navigational tools. You must be continuously aware of your appropriate position, course and speed using all available navigational tools, including the charts. Electrical problems can render electronic aids unreliable or inoperable. It is your duty, as captain, to know exactly where you are at all times when underway. Never set any portable electronic items such as radios near the magnetic compass. This may “throw” the compass well off the mark and can send you in the wrong direction.

Autopilot

WARNING: If the autopilot is engaged, the helmsman should never leave the helm station. When the boat is underway, vigilance must be maintained regarding the condition of the sea ahead. Collision with floating debris such as logs and deadheads can be very damaging to the boat’s props, shafts and rudders as well as to the hull.

The Robertson autopilot controls are quite self-explanatory. Press the appropriate button on the Robertson controls on the panel immediately forward of the pilothouse or flying bridge helm wheel to activate the various functions. The autopilot maintains an assigned heading. The ability for the autopilot to follow a route from the Navigation PC is currently inoperative.

Radars

There are two radar systems a Furuno 48-mile in the Pilothouse, and a Furuno-64 mile system on the Flybridge.

Depth Sounder

The yacht has three separate depth finder/fish finder sonars.

- 1) The **Link system** unit reads depth, speed (poor accuracy), water temperature and relative wind speed and direction. It has display units in four locations: the pilothouse console, the flybridge consoles, the master stateroom, and the VIP stateroom. It is turned on by the depth sounder breaker in the 12/24v panel.
- 2) The **Furuno FCV 582** unit on the pilothouse console is a color recording depth finder with a variety of capabilities.
- 3) The **American Pioneer fish finder sonar** unit on the pilothouse console just forward of the autopilot controls. It utilizes one or more of the computer monitors to show a large variety of data displays. The monitors are selected from a switch located on the left side of the pilothouse helm as well as on the flybridge console. We strongly recommend you at the manual to really appreciate this unit's capabilities.

Search Light

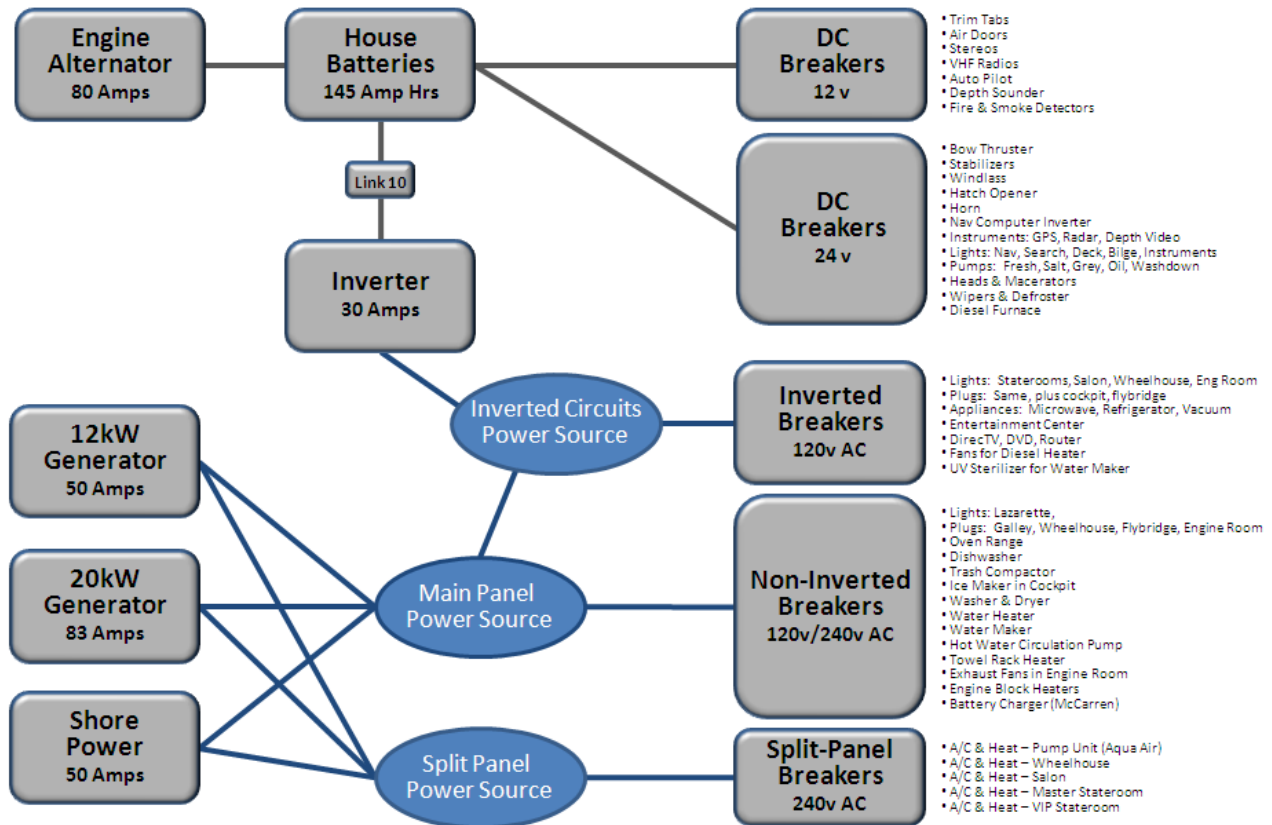
The search light is operated from the flying bridge console via a breaker in the 12/24v panel. It can be directed in "pan and tilt" mode with a toggle post. "S" and "F" indicate spot or flood.

Electrical Systems

Overview

The electrical system has three subsystems: 220 volt AC, 110 volt AC and 12/24 volt DC. The yacht's potential to consume electricity can exceed dock's capacity to provide it. When a particular electrical device or circuit is not needed, be sure the device and the circuit are turned off.

Lady Georgia Electrical System Jan 31, 2010



Electrical Panels and Generator Controls

The main 12/24 volt DC electrical panel is in the pilothouse starboard side cabinet. The 110/220 volt AC panel is in the starboard side of the salon with uses identified at the individual switches. The 110/220 panel also has remote controls for both generators. The battery distribution panel is located on the port aft engine room bulkhead. A galley electrical subpanel is located under the galley counter just to the starboard side of the oven.

Electrical Source Selectors; 110/220-Volt Panel

The right side panel of the 110/220-volt panel in the main Salon contains three (3) rotary switches:

Main electrical source switch. This is centered in the middle of the panel, and switches between generators, shore power, and “0” which is batteries and inverter. Note that the inverter will normally function in inverting mode when shore power or generator power is removed, regardless of the setting of the switch. As a result, this switch does not have to be set to the “0” position for proper inverter operation.

Inverted breakers source switch. This is located on the lower left side of the switch panel, and selects either the “main power source” or the “inverter” to power the inverted breakers. This should always be left in the “Inv (Auto) position. In this position, the inverter will automatically switch from to its inverting cycle when shore/generator power is removed, and back to the charging cycle when shore/generator power is again restored. In the event of an inverter failure, this switch can be switched to the “shore/generator” position to power the inverted circuits.

Split-panel breaker source switch. This is located just below the main rotary source switch, and determines the “source” power for the upper-most twelve breakers on the left column of the two column breaker panel. This allows the 120/240-volt panel to be “split” between two different power sources. These “split” breakers include five 220-volt breakers that control the seawater source Air Chiller and Air Conditioning/Heating Systems, plus a couple of 110-volt breakers at the top of the column. This rotary switch enables selection of split-panel source power to be selected from “shore”, “12kV generator”, “20kV generator”, or “off”.

Note that the split-panel operation provides significant flexibility for operating with heavy electrical loads. The air conditioners draw significant power, and could easily overload either the shore power or either generator, especially if other heavy-amp boat electrical systems are being used.

Examples of use might be:

- 1) While on shore power for the rest of the boat, use one of the generators to operate the air conditioning, or vice versa; or, use shore power to operate the air conditioners and a generator to operate the remaining boat electrical systems.
- 2) While cruising, it would even be possible to operate “both” generators, with the AC load “split” as desired, although use of both generators at the same time is probably unreasonable, unless it is very, very hot, and the air conditioning is really needed for comfort, and power from one generator is insufficient.

Shore Power

The shore power inlet is located in the cockpit amidship. The cable is for 50 amp 110/220 volt AC. If this is not available, there are other cable options available in the cockpit locker under the cockpit settee.

The main shore power breaker is located on the aft bulkhead of the lazarette. Note that the shore power is often inadequate to supply the boats electrical needs, especially after a period of heavy house battery usage. If you don't reduce electrical loads it will trip the shore power breaker (aft bulkhead of lazarette). This situation lasts a few hours while the batteries recharge.

If this happens, you have two options: use a generator (best) or turn off the hot water heater, range, oven and dryer and washer (doesn't always work). Once the batteries get charged, shore power will usually then be adequate.

At some locations shore power is just bad (low voltage). It won't run some loads like the hot water heater or the reverse cycle heat. But you may not notice this right away. Or, it simply keeps tripping the breaker/breakers. In this case, the use of a generator is your only option.

The electric shore power Glendenning cable reel operates from a switch in the cockpit and has a breaker in the engine room starboard aft bulkhead. Make sure shore power cap is "locked" in the up position. Don't let the shore power cap touch or crimp the cable.

Generators

Overview

- There are two generators located in the engine room of the yacht.
- The **20KW Northern Lights generator** is located just inside the engine room on the port side and is capable of providing 83 amps to the electrical system.
- The **12KW Northern Lights generator** is located just inside the engine room on the starboard side and is capable of providing 50 amps to the electrical system.
- The controls for both generators are located in the salon on the right side of the 120/240v electrical panel.
- Additionally, there are controls for each generator in the engine room. The controls for the 20kw generator are on the generator itself. The controls on the 12kw generator itself are inoperative, but functioning controls are located on a separate unit mounted on the engine room rear bulkhead.
- The start battery for both generators is inboard just below the 12kw generator. It is maintenance free.

Basic Operation

- TBD

Notes

- **Starting:** Before starting the generator, make sure it has no load on it. Allow it to warm up for approximately three to five minutes before adding any load. Do this by making sure the rotary source power selector is not set to the generator being started.
- **Remove heavy loads:** Turn off heavy-load circuit breakers before engaging load to the generator, then add load back as necessary.
- **30-min minimum:** Unless already warmed up, never run the generator for less than 30 minutes.
- **Shutdown:** Before shutting down the generator, remove all electrical load from the generator. Allow it to run for three to five minutes without load before shutting it off. This allows the generator to cool off properly.
- **Air Conditioner:** Use the 20KW generator to power the air conditioner. There's not enough load capacity from the 12KW generator or even shore power. Prior to turning on any of the air conditioner breakers, change the "split panel source" to 20KW generator.

Operating Checklist

- To start either generator, verify that the main source selector is not set to the generator being started, and press the "Pre-Heat" rocker switch and hold it for 10 to 20 seconds. After 10 to 20 seconds, and while continuing to hold the pre-heat switch, press the "Start/Stop" toggle to engage the generator starter. The generator will begin to crank over.
- When the engine begins to run, release the "Start" switch while continuing to hold the "pre-heat" switch for another 5-10 seconds before releasing it. If the light on the start switch stays on, the generator is running.
- After a 3-5 minute warm-up, turn the AC main source selector switch to the generator just started (ie, the "12kw" "or 20kw" position). The voltmeters in the panel will register at 220 volts.
- Slowly begin to switch on desired circuits beginning with the main breakers for each circuit set.
- To turn off the generator, reverse start-up process. Remember that before shutting down the generator, remove all electrical load from the generator and let it run for at least 5 minutes to cool down.
- After removing all electrical load, and after the 5 minute cool down period, push the generator "Start/Stop" downward until engine completely dies.
- Note that the 20kw generator is able to heat hot water for the domestic water supply when it is running.

20KW Generator

System Information

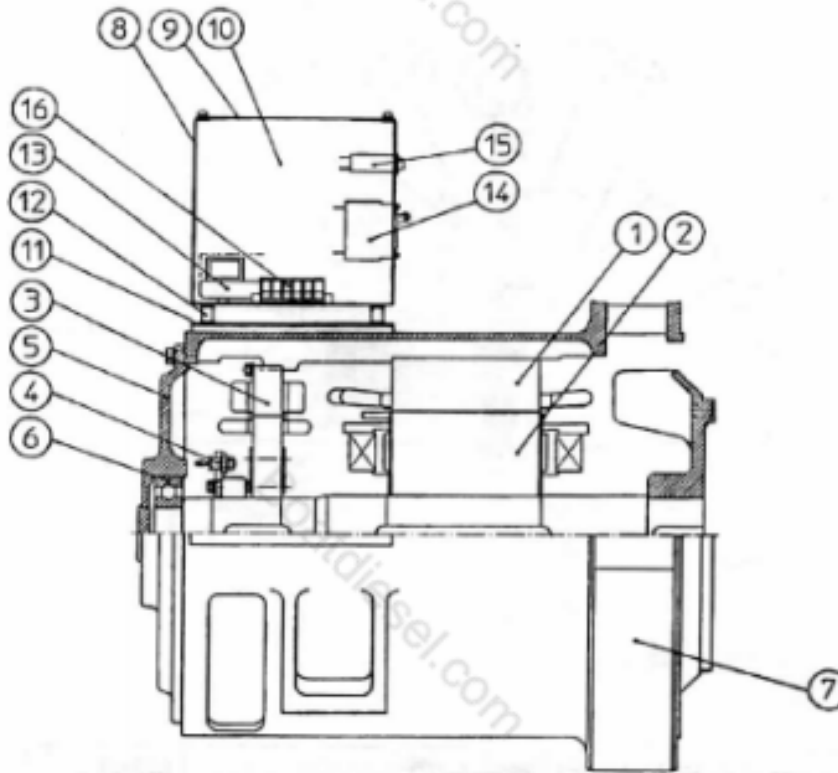
- Manufacturer: Northern Lights
- Model: PXG-307
- Serial Number: GT 7944
- Serial Number: GT 7944
- Date of Manuf:
- Install Date: 3/1/97
- Maint Contact: Northern Lights
4420 14th Avenue N.W. Seattle, WA 98107
(206) 789-3880

Specs

- Power: 220 volts (single phase).
- Power Draw: TBD
- Manufacturer: Northern Lights

Diagram – 20KW Generator

PXG-306 and PXG-307 Parts List



| | ADE Generator Set Model | M844 | M844L |
|-----|--------------------------------|---------------------------|---------------------------|
| No. | Description | PXG-306 | PXG-307 |
| 1 | Stator Assembly (Single Phase) | OSGA3358ST | OSGA3359ST |
| | Stator Assembly (Three Phase) | OSGA3403ST | OSGA3402ST |
| 2 | Rotor Assembly (Single Phase) | OSGA3358RT | OSGA3359RT |
| | Rotor Assembly (Three Phase) | OSGA3403RT | OSGA3402RT |
| 3 | Exciter Stator Assembly | GM404372-2 No. 1 | GM404372-2 No. 1 |
| 4 | Rectifier Assembly | GM38090 | GM-38090 |
| 5 | Bearing Shield | GM33922-5 | GM-33922-5 |
| 6 | Ball Bearing | 6309ZZ | 6309ZZ |
| 7 | Ventilation Cover | GM408961 | GM408961 |
| 8 | Terminal Box | GE43254-1 | GE43254-1 |
| 9 | Terminal Box Cover (Top) | GE43248 | GE43248 |
| 10 | Terminal Box Cover (Side) | GE43249 | GE43249 |
| 11 | Bracket, Terminal Box Mounting | GE43250 | GE43250 |
| 12 | Rubber Damper | KA-12 (60) | KA-12 (60) |
| 13 | AVR | 22-42006 (DST-51-DF) | 22-42006 (DST-51-DF) |
| 14 | Circuit Breaker (Generator) | 22-42053 (NRFAN1100-2AAA) | 22-42053 (NRFAN1100-2AAA) |
| 15 | Circuit Breaker (Engine) | 22-42043 (NRF110-15A) | 22-42043 (NRF110-15A) |
| 16 | Terminal (Control) | TS-212-P 6P | TS-212-P 6P |
| * | Diode Element | 74111 | 74111 |
| * | Diode Element | 74112 | 74112 |
| * | Surge Absorber Element | ENB461D-20A | ENB461D-20A |
| * | Item Not Shown | | |

12KW Generator

System Information

- Manufacturer: Northern Lights
- Model: M843N
- Serial Number:
- Date of Manuf:
- Install Date:
- Maint Contact: TBD

Specs

- Power: 220 volts (single phase).
- Power Draw: TBD
- Manufacturer: Northern Lights

Maintenance

- Manufacturer: Northern Lights

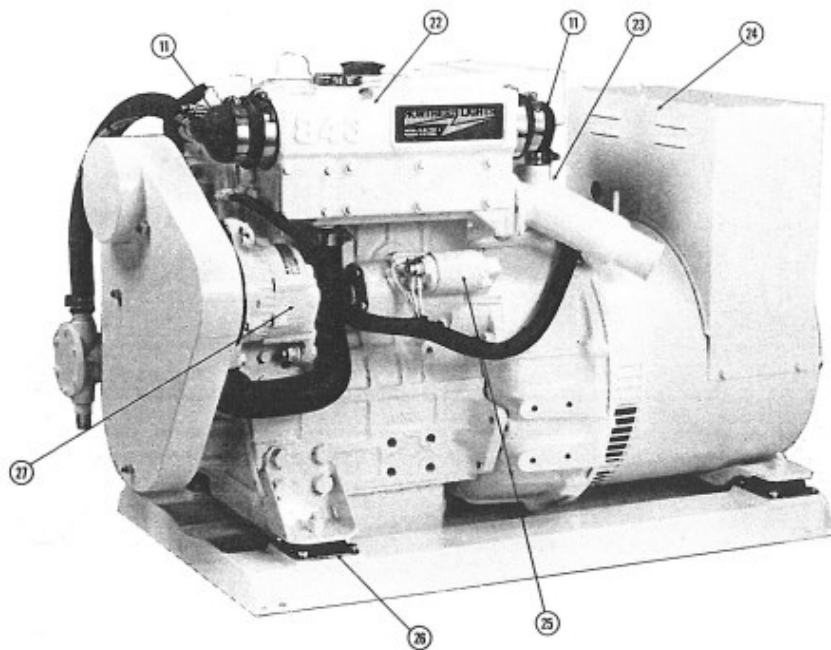
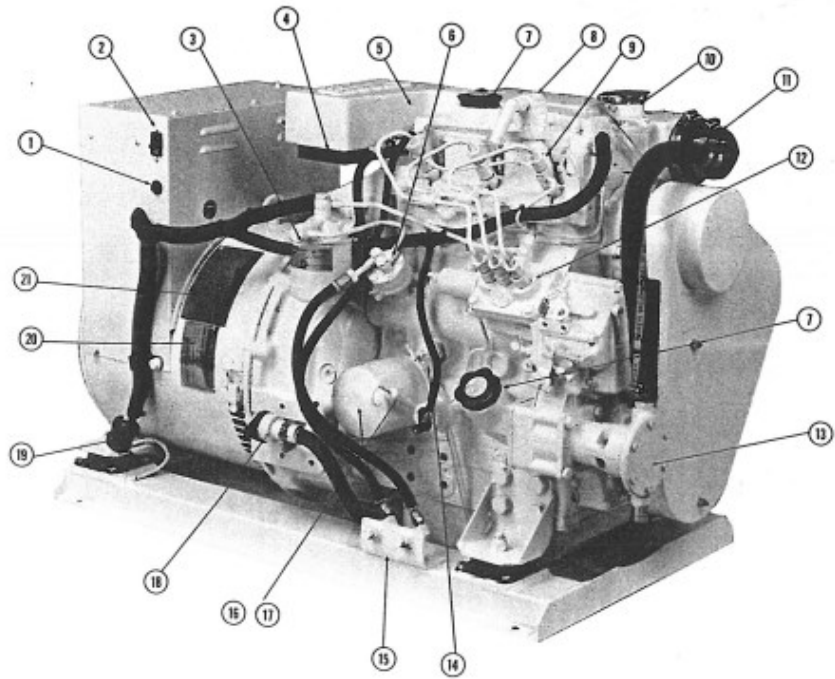
Maintenance Requirements

- xxx

Diagram – 12KW Generator

**M843N MARINE GENERATOR
COMPONENT LOCATIONS**

Service side of M843N
with PXG generator end.



Non-service side of M843N
with PXG generator end.

Figure 2.

- | | | | |
|-------------------------------|----------------------------|---------------------------|-----------------------|
| 1. DC Circuit Breaker | 8. Crankcase Vent | 15. Fuel Inlet & Return | 22. Expansion Tank |
| 2. AC Circuit Breaker for AVR | 9. Fuel Injector | 16. Oil Filter | 23. Wet Exhaust Elbow |
| 3. Fuel Filter | 10. Coolant Fill | 17. Oil Dipstick | 24. Junction Box |
| 4. Air Filter | 11. Heat Exchanger End Cap | 18. Oil Drain | 25. Starter |
| 5. Intake Manifold | 12. Injection Pump | 19. Control Panel Plug-In | 26. Vibration Mount |
| 6. Fuel Lift Pump | 13. Seawater Pump | 20. Generator Set Plate | 27. DC Alternator |
| 7. Oil Fill (2) | 14. Freshwater Block Drain | 21. Generator End Plate | |

Inverter

There is an inverter that runs selected 110 volt AC circuits when silent AC power is desired and shore power is unavailable without the need to run a generator. Inverted circuits include the lower-most twelve (12) circuit breakers on the “right” side column of the 120/240 volt panel, and the lower-most six (6) circuit breakers on the “left” side column of the 120/240-volt panel.

Labels in the 120/240-volt panel identify those circuits that can be fed by the Inverter. Caution must be used when operating the Inverter as it will quickly discharge the sixteen house batteries. Turn off all unnecessary circuits and lights when not in use.

Recharge with shore power or either generator, as necessary. The large house batteries are charged by the starboard engine alternator when the starboard engine is running.

If you run the house batteries down more than 50-percent discharge, the inverter will (kick off) and you will lose the refrigerator, and other equipment if using the inverter for power. For that reason, it’s advisable to run a generator as needed to keep house batteries charged as necessary when shore power is unavailable.

Typically, it is “not” prudent to run a generator when underway or even at anchor, unless it is needed for house battery charging or high load kitchen appliance use. Try to avoid running generators when quiet times are desired such as after dinner, when high load kitchen appliances are no longer in use, or when retiring for the night to bed. When running on house batteries overnight, reduce electrical loads as much as possible (or practical).

If on anchor, it is generally a good idea to start up a generator fairly early the next morning, perhaps shortly after morning coffee, etc., but certainly before imposing heavy loads on Inverter powered systems. Note: The Inverter powers the power strips for the galley coffee pot, espresso maker, and television, so coffee can be made the night before for auto-brew in the morning, etc. Note: whenever running the generator for house battery recharging, turn on the water maker if the water tank has room for additional fresh water.

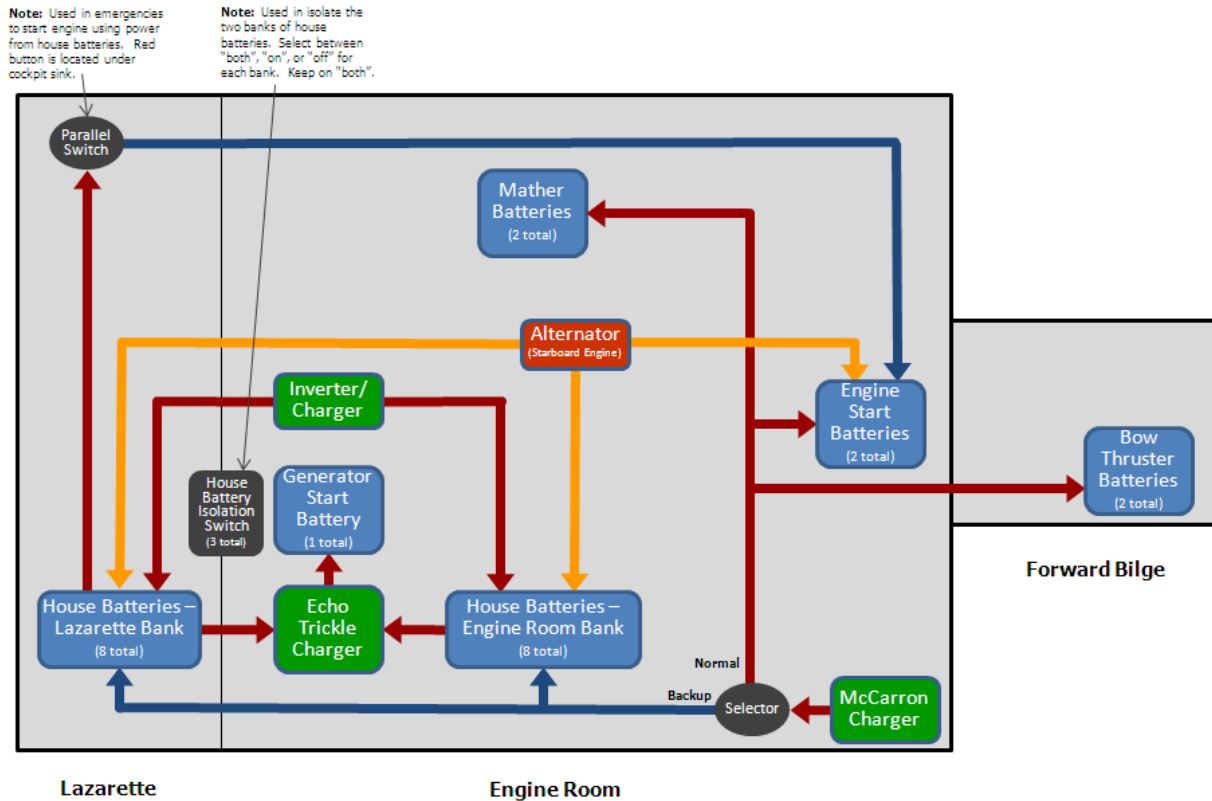
Batteries and Chargers

Overview

Lady Georgia

Battery System

Jan 31, 2010



There are a total of twenty-three (23) batteries on the boat. Periodically check water level in all batteries that are not maintenance free, which includes one of the two engine start batteries, the generator start battery and the dinghy battery.

House Batteries (16): There are sixteen 6-volt house batteries. Eight batteries are located outboard of the starboard main engine, and eight batteries are located on the starboard side of the lazarette. The sixteen house batteries are cabled series and parallel to provide 24-volt house voltage. The house batteries are “maintenance free.”

Starting Batteries (2): There are two “engine start” batteries either side of the centerline of forward engine room bulkhead, between the two main engines.

Bow Thruster Batteries (2): The forward bilge space (accessed through a hatch in the floor of the VIP stateroom hallway) contains two bow thruster batteries. These batteries are maintenance free.

Mather Backup Batteries (2): There are two maintenance free 12-volt batteries (paired to provide 24-volts) outboard of the port main engine. These two batteries are “backup” batteries for the Mather system, which controls engine transmissions and throttles.

Generator Start Battery (1): There is also one 12-volt battery in front of and below the 12KW generator. This single battery is the “start” battery for “both” the 12KW and the 20KW generators. A generator start battery

switch is located just above the start battery (just under the Inverter mounting platform). This switch must be in the “on” position for start battery power to be available to the generators. Add distilled water as necessary to all the non-maintenance free batteries.

Dinghy Battery (1): This battery is “not” maintenance free.

Routine Maintenance: Add distilled water as necessary and check terminals clean and free corrosion.

Battery Switches

The battery switches are located on a white electrical box in the engine room aft bulkhead, starboard side. There are three battery switches, two on the port side of the box, and one on the starboard side. Leave these switches on “both” at all times.

Battery Chargers

Battery Charger #1 (Inverter): The Inverter also serves as a house battery charger if a power source is available to it (shore power, either generator running, etc.). With a power source, the Inverter charges the sixteen (16) house batteries. If the house batteries are low, the Inverter will draw significant amperage while it is recharging the house batteries. Once the house batteries are fully charged, the charging amperage drops off and then becomes available for other boat electrical needs.

The single generator start battery is located below and just forward of the 12KW generator. This battery is the “start” battery for “both” generators. The generator start battery is “trickle” charged from the house batteries. An “Echo” trickle charger is located under the 12KW generator and trickle charges the generator start battery only when the house batteries are at or near full charge. There is a breaker in the 110/220-Volt panel for this battery. It must be “on” for the generator start battery to charge.

Battery Charger #2 (Newmar): The other main battery charger is a Newmar Charger. This charger is located outboard of the starboard engine just forward of the starboard engine. This battery charger charges the engine start batteries, the bow thruster batteries, and the Mather engine control system batteries (located outboard of the port engine).

This charger has a dedicated circuit breaker on the charger itself, and also a dedicated circuit breaker in the 110/220-Volt panel in the Salon. Before starting main engines, verify that this battery charger is operational.

In the event the charging function of the Inverter fails, thus making it impossible to recharge house batteries from the Inverter, the Newmar charger can be used to recharge the house batteries. A switch is located in the lower right portion of the Salon electrical panel. Turn this switch “on” to use the Newmar battery charger to charge house batteries. The Newmar battery charger is not nearly as powerful as the Inverter for charging house batteries. As a result, use of the Newmar battery charger to charge house batteries will take considerable time.

12/24 Volt System

The 12/24-volt system runs the electrical systems necessary to operate many of the systems on the yacht. Bilge pumps, water pumps, electric toilets, navigation lights, electronics, etc., are 12 or 24-volt systems, as are most of the house lights.

The main 12/24-volt electrical panel is located just to the right of the pilothouse wheel. Use only the circuit needed while keeping the others off. There are sufficient lights and other 12/24-volt devices to significantly draw down the house batteries of power if they were left on during a long evening.

There is a 24-volt DC to 120-volt AC inverter on a cabinet shelf just to the port side of the pilothouse wheel. This inverter separately provides power to the ship's navigation computer and monitors, as well as other critical navigation systems. This inverter will provide power to critical navigation systems even if a total power failure occurs in the boat's primary electrical system.

Some of the 12 volt system is powered by a 12 volt converter whose breaker is in the 12/24 panel. There is also a 12 volt breaker panel inside the pilot house console cabinet (port side – white with six breakers). It powers the sat dish, the Head Hunter waste tank level system, the WxFax, the SSB radio, the Sonar and some flybridge electronics.

Most interior lights are actually 12/24v AC from several 110 to 12- volt step-down transformers. Breakers for the 110v to 12/24v step-down transformers are in the 120/240v breaker panel in the main salon.

The large 12/24-Volt house battery bank on the starboard side of the lazarette and engine room are for the 12/24-Volt systems, and is the power source for the main inverter when it is in inverting mode. For many 12-Volt systems the 12-Volt Inverter breaker in the 12/24 VDC panel must be on. The house bank of batteries is charged by the main Inverter when in charge mode utilizing shore power, generators and/or the starboard engine alternator when the engine is running.

Start Battery Parallel Switch

There is a “start battery parallel switch” on the lower left side of the Salon electrical panel. This switch “parallels” the start and house batteries for engine start in case of a start battery over- discharge or failure. This switch can be left “on” during all times there is a problem with the start batteries, but should be turned “off” once the start battery problem has been resolved.

Important Note: Total discharge of the engine start batteries will cause an unanticipated and sudden shutdown of “both” engines. Depending on the circumstances at the time of total engine shutdown, this could very possibly result in a very serious “emergency” situation. Some pre-warning symptoms of possible total discharge of engine start batteries include erratic behavior or significant dimming of engine control displays or gauges, plus erratic control of throttles and transmissions.

If such symptoms are observed, “immediately” turn on the start battery parallel switch on the lower left side of the Salon electrical panel. Remember, the engines will not run, and will immediately quit running, if deprived of all battery power. Correct the discharge problem with the engine start batteries as soon as possible in the event this situation occurs.

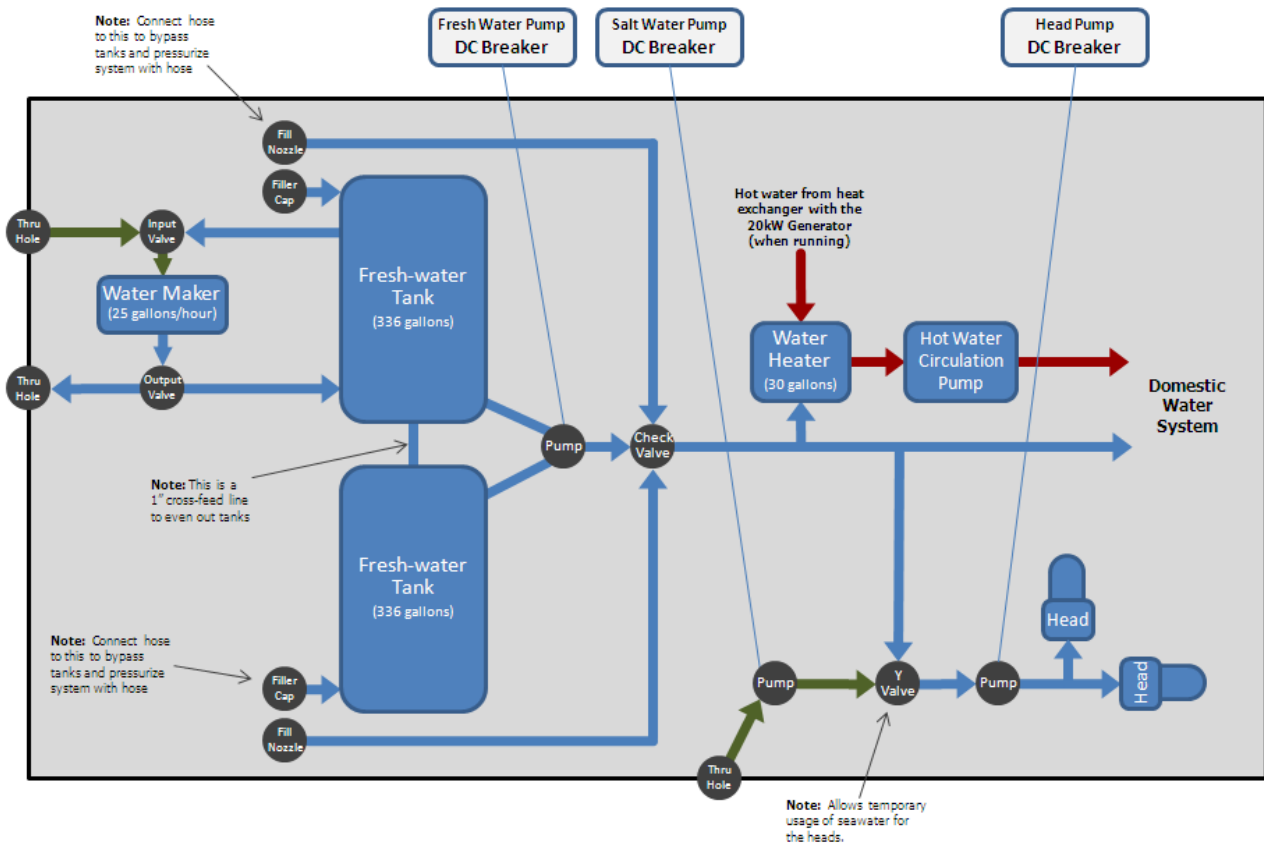
LinkLITE House Battery Monitor

A LinkLITE house battery monitor is located on lower right side of the Salon 120/240v AC Panel. This monitors the voltage, current amp draw, total amps drawn, and percentage of charge remaining for the house batteries. This monitor should be viewed often when operating on house batteries, so that the state of charge, remaining charge, and instant battery drawdown amperage of the house batteries can be known frequently. Monitoring of instant drawdown amperage is helpful in managing loads while on the house batteries, especially in setting practical and allowable loads before retiring for the night.

Note: The LinkLITE should be synchronized fairly often with 100% charged house batteries. Once it is known that the house batteries are “fully charged to 100%,” simultaneously press and hold the “two outermost” of the three buttons for approximately three (3) seconds. This will “synchronize the LinkLITE to the fully charged batteries, and the LinkLITE will then correctly show the house battery charge state at 100%.

Domestic Water System

Overview



Fresh-Water Tanks

The yacht carries approximately 336 gallons of fresh water in a pair of tanks in the lazarette. Great care should always be taken to protect the quality of the water in this tank. Always use a hose that is known to be clean to fill the water tank.

The filler caps are located on the port and starboard side of the yacht in the cockpit. Both tanks fill from either filler. A site glass is located on each tank. At about 5 inches from the bottom the system will lose pressure.

The two fresh water tanks are interconnected with a 1-inch crossover water line. However, this crossover line cannot keep up with a pressurized water hose filling one or the other water tanks. Therefore, after filling one tank, check the level of the other tank. It may be necessary; in fact it is likely, that the other tank will also require topping off with the pressurized hose.

There are also two hose connections adjacent to the water filler caps. Hooking a water fill hose directly to one of these allows the domestic system to be pressurized by the fill hose, bypassing the fresh water pump and tanks. Note: Even with a pressurized hose connected directly to the boat, the fresh water system will use a minor quantity of fresh water from the tank. Therefore, before leaving the dock, check to see if the water tanks need to be topped off. If the boat is connected directly to a pressurized water source such as dock water, the freshwater pump can be turned “off.” This avoids drawing water from the freshwater tanks, leaving them “full” for the next trip out.

Note: Never fill both fuel and water tanks at the same time. Many unfortunate boat owners have made this mistake and accidentally pumped fuel into the domestic water system. Be very careful to get the water in the water tank, and the fuel in the fuel tank. Fuel in the water tank is impossible to remove from the tank and plumbing, and will necessitate the removal and replacement of the entire domestic water system. This includes replacing all tanks, pumps and plumbing.

Water Heater

The electric water heater runs off the 220-volt system. It can be used only with a generator operating or on the shore power when available. The circuit breaker is on the 120/240v panel.

The port engine circulates hot coolant water through coils in water heater while cruising, but is not very effective in maintaining hot water.

EXTREMELY IMPORTANT: Turn off the breaker to the water heater if the water tanks are very low or if they run dry, or the fresh water pump fails to pressurize the system. The electric element may burn up if the tank is drained of all water.

The water heater draws approximately 20 amps when heating water, particularly after using the showers, dishwasher or clothes washer. This electrical load leaves little available for other boat electrical systems, especially if using other high-load appliances such as the stove, oven, washer, dryer or dishwasher. If adequate power is not available (lazarette main breaker tripping off, etc), consideration might be given to temporarily turning off the water heater breaker until other electrical uses have been reduced. Alternately, you can simply stop using other high load appliances until the water heater has fully heated its water.

Watermaker

Overview

- The Watermaker is located in the Lazarette and is operated via the panel in the salon next to the sliding entrance doors.

Basic Operation

- The Low Pressure Pump (LPP) pumps sea/lake water from outside the boat through a sea cock and strainer, and into the Pre-Filter.
- The High Pressure Pump (HPP) pumps sea/lake water from the Pre-Filter to the Vessel Set.
- The fresh water emerging from the Vessel Set is pumped into the ship's main Product Water Tank.
- The fresh water from the ship's water tank is pumped through the ultraviolet Post Treatment system to either the boat's fresh water system or back through the watermaker system for the Fresh Water Flush
- The brine water emerging from the Vessel Set is pumped overboard through the Brine Discharge Fitting above sea level.

Notes

- The freshwater tanks hold 672 gallons (338 gallons each). Requires 8.6 hours to fill the tanks if empty.
- The system has Automatic Pressure Control (APC), so pressure adjustments are not required.
- The total cost of the system was approx \$20K.
- The system is programmed to perform a Fresh Water Flush every week for 7 minutes. This is very important to extend the life of the system and its components.
- The Fresh Water Flush requires that the breakers are on and sufficient water is in the freshwater tanks.
- System must be protected from freezing. Run a space heater in the lazarette during the winter.

Maintenance Requirements

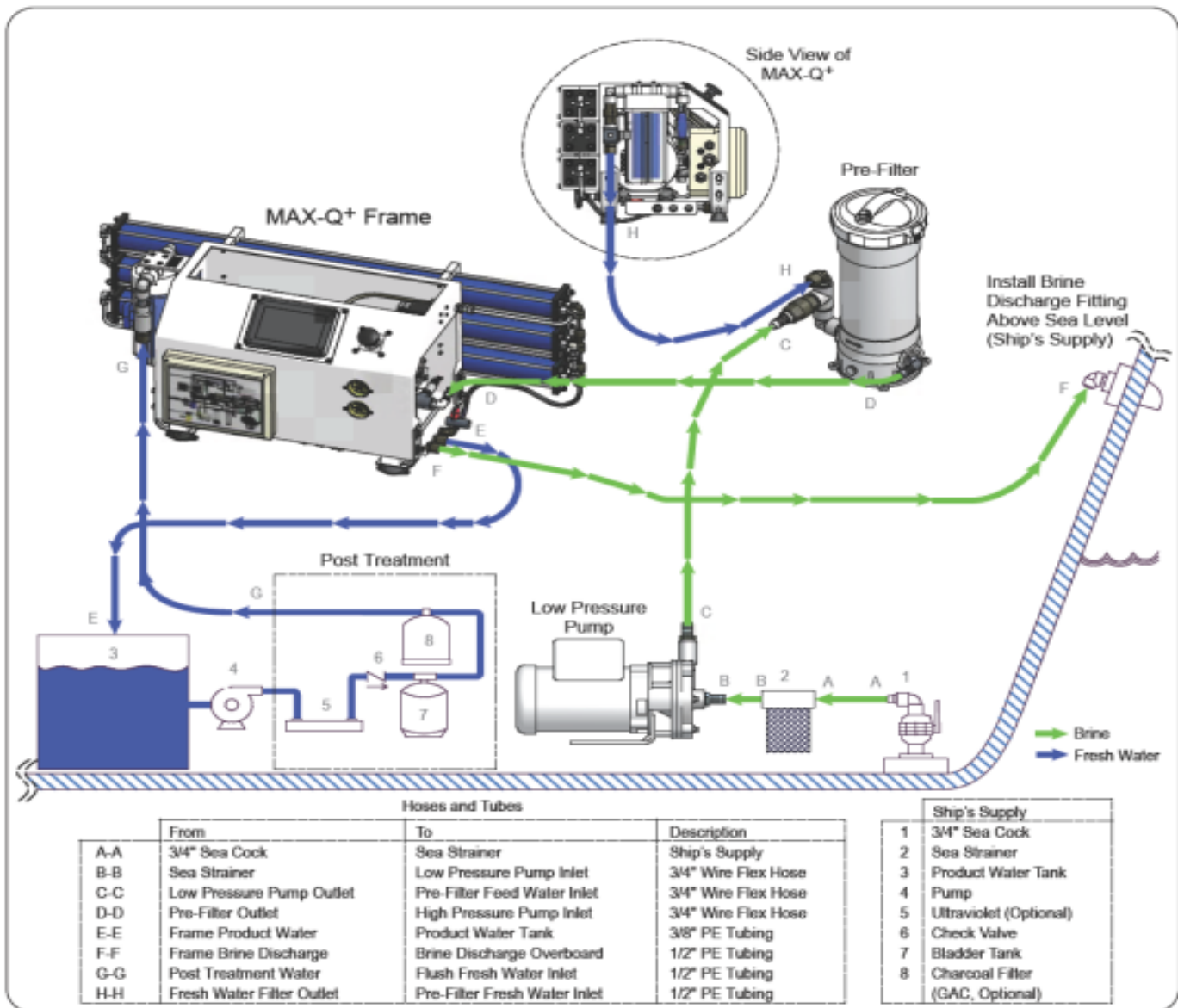
- Sea Strainer – inspect & clean screen & housing every 100 hours.
- Pre-Filter – replace when indicated on the control panel (when low pressure reaches 5-7 PSI). The FCI cartridge part # is 20-2261.
- Fresh Water Filter – replace when indicated on the control panel (every 3 months).
- High Pressure Pump Oil – change oil when indicated on the control panel (every 500 hours).
- The thru-hull, seacock and strainer are located below the port freshwater tank.
- Membrane – rated for 3 years (2016 -> 2019), but will last longer with regular fresh water flushes.
- Pumps – service LPP & HPP seals every 1,000 hours, and HPP valves every 1,500 hours

System Information

- Manufacturer: FCI Watermakers
- Contact Info: 801.906.8840 fciwatermakers.com (owner: Scott McQuirie)
- Model: MQM1826+APC
- Serial Number: 4498
- Date of Manuf: 3/23/2016
- Install Date: 2016, by Dennis Knoch
- Maint Contact: TBD

Specs

- Production Rate: 1.3 gallons/minute which is 78 gallons/hr or 1,850 gallons/day.
- Power: 220 volts (single phase).
- Power Draw: TBD



Component Locations

- The thru-hull, seacock and strainer are located below the port freshwater tank.
- The Low Pressure Pump is located in the aft port corner.
- The Pre-Filter is located just aft of the port freshwater tank.
- The High Pressure Pump is located just aft of the Pre-Filter.
- The Vessel Set is located just aft of the High Pressure Pump underneath the shelf that was built to cover it.
- The Ultraviolet Sterilizer Unit is located on the aft wall.
- The Fresh Water Filter is located next to the port freshwater tank near the control panel.
- It does not appear that the system was installed with the optional Media Filter.

Checklist: Watermaker Operation (Seawater to Freshwater tank)

1. **Power source** – ensure active generator or shore power.
1. **240V breaker** – turn on “Water Maker” (upper right of AC panel).
2. **120V breaker** – turn on “UV Water Maker UV Sterilizer” (middle right of AC panel).
3. **Input valve** – set to “saltwater” (located under port water tank).
4. **Output valve** – set to “freshwater tank” (located next to diesel heater).
5. **Start**– push start button on control panel.
6. **Note:** When on anchor and using generator in the morning to re-charge house batteries, always run water maker to take advantage of power while charging batteries.

Checklist: Fresh Water Flush

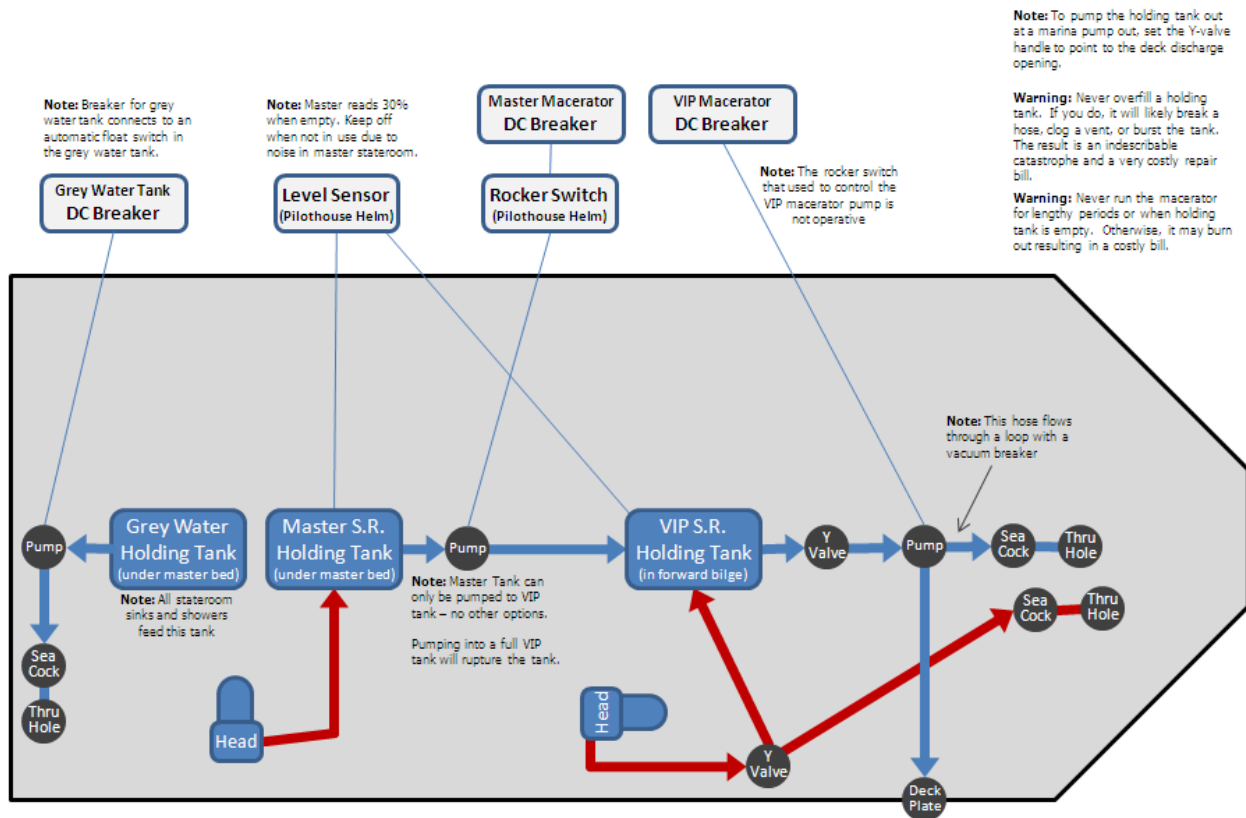
1. **Power source** – ensure active generator or shore power.
2. **240V breaker** – turn on “Water Maker” (upper right of AC panel).
3. **Input valve** – set to “freshwater tank” (located under port water tank).
4. **Output valve** – set to “overboard” (located next to diesel heater).
5. **Start**– select FWF on control panel.
6. **Duration** – control unit will control automatically.

Reminders

1. **Power source** – operation requires active generator or shore power
2. **Pressure limit** – automatically controlled.
3. **Freshwater production** – 78 g/hr, 1,850 g/day. If at anchor, run during day with generator.
4. **Freshwater tank overflow** – ok (but not recommended) to pump into a full freshwater tank since it has an overflow valve.
5. **72-hour flush requirement** – must perform a freshwater flush within 72 hours of desalination usage.
6. **30-day flush requirement** – must perform a freshwater flush within 30 days of last freshwater flush.

Waste Water Systems

Overview



Marine Heads and Holding Tank

This yacht has two heads, each with an electric Royal Flush toilet. These toilets flush using a high pressure water venturi jet located in the bottom of the toilet bowl. A dedicated high pressure water pump (45 to 50 psi) for the toilets is located under the metal floor plates in the lazarette, amidship and toward the aft end of the lazarette.

The Royal Flush toilets discharge to two black water holding tanks, one located under the master stateroom bed (for the master stateroom toilet), and the other located in the bilge under the VIP stateroom hallway. The main black water tank is the VIP bilge tank, and is accessed from the VIP hall floor. The master stateroom black water tank discharges to the forward black water tank located in the bilge under the VIP hallway, using a dedicated macerator pump located next to the master stateroom black water tank. The master stateroom macerator pump is started by a breaker in the 12/24-Volt panel in the pilot house, AND, a rocker switch on the Pilot House panel.

The main black water tank, located in the forward bilge under the VIP hallway, also has a dedicated discharge macerator pump. Black water discharge overboard is from the main black water tank in the bilge under the VIP hallway. As stated above, it takes waste from the VIP head or the master stateroom black water tank and can discharge through a Y-valve either overboard or to a deck waste suction fitting located on the starboard deck outside of the pilothouse. The macerator pump for discharging the forward bilge black water tank overboard is started by the macerator breaker in the 12/24- Volt panel in the Pilot House.

NOTE: ALWAYS LEAVE THE BREAKER IN THE 12/24-VOLT SYSTEM FOR THE MASTER STATEROOM MACERATOR PUMP IN THE “OFF” POSITION WHEN NOT IN USE. THIS AVOIDS INADVERTANT OPERATION OF THE MASTER STATEROOM MACERATOR PUMP FROM THE ROCKER SWITCH ON THE PILOT HOUSE PANEL. INADVERTANT OPERATION OF THE MASTER STATEROOM MACERATOR PUMP COULD OVERFLOW THE FORWARD BILGE BLACK WATER TANK IF IT IS FULL OR AT A HIGH LEVEL

Note: The two black water macerator pumps are of identical size and manufacturer. A spare macerator pump is stored in the forward bilge under the VIP hallway. This spare macerator pump can be used as a replacement for either macerator pump as needed in case of a pump failure.

The rocker switch marked labeled “black water” (now says “inop”) on the pilothouse console is inoperative and does nothing.

On the port side of the pilothouse console vertical face is a level indicator for these two tanks. The rocker switch below it turns it on for readings (which take a few seconds). The master tank usually does not read less than 20 to 30% when empty. If the switch is left on, it gets readings every few minutes but in doing so makes a noisy buzzing sound heard in the staterooms.

NOTE: The black water tank in the forward bilge under the VIP hallway is approximately twice the volume as the Master Stateroom black water tank. Therefore, if the Master Stateroom tank is full, and if the VIP Stateroom tank is empty, the entire contents of the Master Stateroom tank can be transferred to the VIP Stateroom tank filling it only approximately half full. However, great care should be taken to NEVER OVERFILL THE VIP STATEROOM TANK, as the tank or plumbing and fittings could rupture, causing an incredible and expensive mess in the forward bilge.

PROPER MANAGEMENT OF BLACK WATER TANK LEVELS AND MANAGED DISCHARGE OF THE TANKS IS CRITICAL. Never pump the Master Stateroom tank to the forward bilge tank when the forward bilge tank is more than approximately one-third full, unless the forward VIP Stateroom tank is being discharged overboard at the same time.

NO MATTER WHAT, ALWAYS MAKE SURE THERE IS ADEQUATE ROOM IN THE FORWARD VIP STATEROOM TANK WHEN PUMPING FROM THE MASTER STATEROOM TANK. IF THE FORWARD BLACK WATER MASERATOR PUMP DISCHARGING OVERBOARD WERE TO FAIL WHILE ALSO PUMPING FROM THE MASTER STATEROOM TANK, ASSURE THAT THERE IS ALWAYS ROOM IN THE VIP TANK FOR THE ENTIRE CONTENTS OF THE MASTER STATEROOM TANK, EVEN IF THE VIP STATEROOM TANK’S MASTERATOR PUMP WERE TO FAIL WHILE PUMPING OVERBOARD.

More on the Holding Tanks

IMPORTANT: You must be mindful of the extent of your crew’s use of the holding tank. NEVER overfill the holding tank. It is possible to break a hose, clog a vent or burst the tank if it is used when it is full. The result is an indescribable catastrophe and a very costly repair bill.

Pumping out the tank is done in one of two ways. There is a deck pump out, starboard side, for use with marina pump-out or the forward VIP tank macerator pump-out. However, valves in the forward bilge must be properly positions for pump out.

NEVER run macerator for lengthy periods or when holding tank is empty so as to prevent burn out. This is another costly problem that can be avoided by heeding the cautions.

To pump the holding tank out at a marina pump out, via the deck discharge suction opening, the Y VALVE MUST BE SET TO THAT POSITION. The Y-valve is located in the forward bilge under the VIP hallway. The deck suction opening appears to be similar to the fuel and water fill openings, but is clearly identified as “WASTE”.

BE SURE you are familiar with applicable laws concerning use of holding tanks and dumping of sewage overboard. In almost all legal applications, it is required that the heads empty directly into the holding tank and that the holding tank be emptied either at a shore-side pump out facility or in open waters, off-shore.

Toilets

It is critical that every member of the crew be informed regarding the proper use of marine toilets. Marine heads are not at all like your toilet at home. NEVER dispose of paper towels, tampons, Kleenex, sanitary napkins, household toilet tissue, undigested food, etc., in marine toilets.

In the event of seasickness, DO NOT USE THE MARINE TOILETS. Over the rail is a better choice. The valves, openings and pumps are extremely small and will clog if overloaded. A clogged toilet can be very expensive to repair, leave a huge mess and potentially ruin a vacation.

In nearly all cases, the problems that occur with a marine head are due entirely to misuse by the operator. Sea-going plumbers are very expensive, so heed the above cautions and avoid the cost and aggravation associated with a plugged or broken head. To aid in clearing a stopped-up toilet, there is a plunger behind the VIP Stateroom toilet, and a snake behind the toilet in the Master Stateroom. A few strokes with the plunger usually does the job. If not, the snake might be used to free up the plugged area. If needed remove the cleanout cap.

NOTE: If a toilet is backing up or not flushing properly, check to see if its holding tank is full. Many times, that is the problem, especially in the Master Stateroom head.

To ensure trouble-free operation of these marine heads, use only dissolving marine toilet tissue. Nothing else will work. Yes, it's more expensive than regular tissue, but in the long run, it's cheap.

To operate the electric toilets (head), make sure the breakers are turned on at the 12/24-volt panel including the fresh water pump breaker.

VERY IMPORTANT: Royal Flush heads normally use fresh/domestic water. The water tank must be adequately full and the water pump breaker must also be on. However, a valve on the port side hull in the lazarette does allow the toilets to use salt water. If on a long trip without access to fresh water, using salt water for toilet flush will save considerable time running the desalinization system.

The toilet is activated by a small silver button on the left rear. The button moves only slightly. If the toilet doesn't flush check the circuit breakers and the fresh water tanks.

This toilet is operated by a high pressure and high velocity water jet venturi located in the bottom of the bowl, which is the sound you hear when you push the flush button. It also empties the bowl almost instantly. There is a valve in the compartment behind the toilets. It is adjusted to a mid position. In one extreme position it is all flush and no water. In the other it is all water and no flush. The mid position is to balance these functions. Sometimes it needs a slight adjustment.

NOTE: The toilets can be operated with sea water, but it is not normally recommended as salt water in the black water tanks should be avoided if possible. However, using sea water is a proper and necessary solution if fresh water is not available, or in very short supply. To do so you must switch the 3-way valve located on the hull on the port side of the Lazarette. Also, In order to operate the toilets with sea water, the 24-Volt breaker for the saltwater pump in the 12/24-Volt panel in the Pilot House must also be turned on.

Anchoring

Windlass

The primary on/off breaker is located on the 12/24-Volt panel in the Pilot House.

There is a pair of foot switches on the forward deck, adjacent to the windlass motor. One is for paying out chain and the other is for retrieving chain. There is a safety lock to flip onto the chain roller to prevent it from running out accidentally and preserve the windlass bearings. Be careful to keep fingers, toes and other appendages away from the chain and wildcat when windlass is operating.

The windlass can also be operated by rocker switches from the fly bridge or the pilothouse. However, no matter which station is used for anchoring or retrieval, the safety lock must be disengaged from the anchor chain and reengaged when retrieved.

NOTE: Never overload the windlass when retrieving the anchor. The windless should run relatively free without strain. Never use the windless to “pull” the boat up over the anchor, and never use the windless to “break” the anchor free from the bottom if it is stuck.

There is a hand crank/clutch wrench for the windlass located in the port or starboard fender locker just aft of the windlass. The windlass has many features and modes of operation. If you’re not familiar with them read the manual in the salon file drawer.

Routine maintenance: Grease the main bearing through a grease fitting at the base of the windlass drum: Bi-monthly. Keep deck components clean with CRC 3097 or WD40. .

Notes on Anchoring

SAFETY NOTE – IMPORTANT: Immediately following anchoring, deploy the swim step ladder. Deploying and retrieving the dingy, and transiting in and out of the dingy, has significant potential for a “man overboard” situation. It is virtually impossible for a person to pull themselves out of the water and up on the swim step without the swim step ladder deployed. If alone with no help, an accidental man overboard situation could be fatal.

IMPORTANT NOTE: DON’T FORGET TO RETRIEVE THE SWIM STEP LADDER BEFORE HAULING ANCHOR. IT IS VERY EASY TO FORGET.

IMPORTANT NOTE: NEVER DEPLOY A CRAB TRAPS OR SIMILAR DEVICE DIRECTLY FROM THE BOAT. THE LINE WILL ALMOST CERTAINLY FOWL IN THE RUDDER/PROPS. ALWAYS DEPLOY CRAB TRAPS FROM THE DINGY, FAR ENOUGH FROM THE BOAT SO THAT A 360-DEGREE SWING ON ANCHOR WILL NOT INTERSECT THE TRAPS.

IMPORTANT NOTE: DO NOT FORGET TO TURN ON THE ANCHOR LIGHT AS DUSK APPROACHES. TURN ON NAVIGATION LIGHT BREAKER IN 12/24-VOLT PANEL IN PILOT HOUSE; TURN ON ANCHORE LIGHT ROCKER SWITCH IN PILOTHOUSE; THEN SET ROCKER SWITCH ON FLYBRIDGE TO THE “ANCHOR LIGHT” POSITION. VERIFY THAT ONLY THE ANCHOR LIGHT IS “ON,” AND THAT THE NAVIGATION LIGHTS ARE “OFF.” TURN ANCHOR LIGHT OFF FIRST THING IN THE MORNING.

Setting the Anchor

Always use proper anchoring procedures when anchoring.

Bring boat to a complete stop before lowering anchor. To be safe, let out approximately five feet of chain for every foot of depth. A total length of 450-feet of anchor chain rode is available for anchoring. It is not recommended that the entire length of the available rode be paid out, although this can be done if needed. Try to leave at least some rode in the locker. In most cases, only a portion of the available rode chain is required for proper anchoring.

Back the boat down on your anchor using the engines and “stretch” the chain to make certain that the anchor will hold. This is called, “setting the anchor”. Use a small amount of reverse power to assure that the anchor is set. If set, the bow should dip down ever so slightly when the anchor rode stretches out.

Monitor yacht’s position periodically after setting anchor to see that anchor remains set. This is important if it becomes windy or there is a current. Under storm or extremely windy conditions a “periodic” or possibly even a “continuous” night watch may be necessary.

There is a 400’ line in a box in the lazarette and a bagged spare anchor located behind the forward port side corner of the 20KW generator that can be used as a spare anchor, stern anchor or shore tie if needed or desired.

Retrieving the Anchor

It is recommended that the anchor rode chain be continuously washed with fresh water while the anchor is being retrieved, if there is a surplus supply of fresh water. Washing the anchor rode chain with fresh water can use a significant amount of the fresh water supply. Make sure adequate fresh water is available for this and other uses. Be conservative with the wash. The objective is to wash the anchor rode chain only enough to flush of the salt water. While weighing anchor, be sure to **have both engines running**. A water hose for anchor and anchor road chain wash down is stored in the forward starboard locker. It is permissible to use salt water for anchor chain wash while retrieving the anchor to preserve fresh water.

Retrieve the anchor as the boat is moved forward with the engines. Move the yacht forward to a position approximately over the anchor. This will make it relatively easy to break the anchor free from the bottom. Never “tow” the boat forward using the windlass. Once the bow is directly over the set anchor, lock the anchor windless spindle with the chuck, and move the boat slowly forward to break the anchor free.

When retrieving the anchor, care should be taken that the anchor does not swing into the bow and that the shank is guided over pulpit rollers. Stop the windlass immediately if that is not the case. From that point, slowly retrieve the anchor to its nesting position (anchor flukes facing down). Fairly often, the anchor will try to nestle with the flukes in the up position. If this occurs, work the anchor in and out a few times until the anchor flips over into the flukes down position. If forced up with the flukes in the up position, the anchor may jam in anchor channel, and such jamming is very difficult to reverse. This is the correct time to wash the mud from the anchor, the chain and, then, from the deck. This can be done with fresh or salt water. Be sure the salt water pump is turned on in the 12/24-Volt panel in the Pilot House if you intend to use salt water for washdown. A hose is stowed in the fender lockers on the forward deck for anchor rode chain and anchor washdown. Keep this hose separated from hoses used for fresh water filling of the water tanks.

There is a second emergency use anchor on the port side of the engine room, adjacent to the forward outside corner of the 20KW generator.

***NOTE:** Anchor rode color code: It posted on a placard in the bow.

Swim Ladder

LADY GEORGIA comes equipped with swim ladder mounted to the swim platform. Always remove the protective fender when leaving the dock for cruising. This bottom portion of the ladder swings down and into the water when slightly pulled from its holding brackets. Do not operate the boat with the bottom portion of the ladder in the down position.

Dinghy Operation

Lowering and Raising

The davit, used to lift the dinghy, is designed to lift just the dinghy not extra people or cargo which and overload and damage it.

The control cable is stored in the locker below the fly bridge wet bar and plugs in the davit boom arm. Hydraulic oil is stored in the boat deck cooler and fills via a cover in the top of the boom. Don't overfill – have the boom fully down and the cable fully retracted when filing.

Make sure dinghy bridle is securely fastened to dinghy. This is a 3-point hookup.

Operate davit windlass with plug-in remote control. BE SURE to check and see that the davit wire rope (cable) rides in the center of the davit arm sheave located at the end of the davit arm.

IMPORTANT: It is best to use two people to lower or raise dinghy – one person on flybridge deck and one ready to guide the dinghy past the house and hull by standing by on the lower aft deck, portside, taking great care to never get one's body between the two boats or under the dinghy which is being lowered or raised.

Be sure to have a line attached to the dinghy's bow prior to lifting or lowering it. This will be needed to keep the dinghy aimed in the correct direction during lifting or lowering and to secure it to the yacht prior to releasing the lifting bridle.

The Davit breaker is located on the engine room starboard aft white electric panel on the starboard side of the aft engine room bulkhead.

Dinghy Use

Prime the fuel line by squeezing the bulb in the fuel line and choke engine when starting cold. The choke is manually controlled by a pull knob on the starboard side of the motor. Make sure engine controls are in neutral when starting, and that the high idle lever is in the up position. Keep the dinghy three bladders fully inflated when in use. A foot pump is stored in the dinghy that works surprisingly fast and easily. Dinghy spares and parts are stored in the boat deck cooler, including spark plugs, battery charger and a patch kit...

The dinghy uses regular unleaded without any oil mixed in.

Life jackets for the operator and passengers should be considered standard equipment. It is especially important to have them on children to prevent injury or worse. In fact, THE LAW REQUIRES IT.

Routine maintenance: Lubricate steering shaft at shaft motor as necessary with marine grease.

Covering the Dinghy

Try to avoid putting the cover on the dinghy when it is wet. To put the engine cover on while the dinghy up on the deck, raise the engine and tilt the propeller towards you. This will make it easier to slip the cover over the end of the prop.

Lighting

Salon

Salon lights are controlled from three locations:

- A small white remote control
- Push button switch mounted on the wall above the salon mirrored cabinets
- Push-button switch mounted inside the printer cabinet in the salon on the upper-back wall.

Galley / Pilothouse

Most of the pilothouse overhead lights are controlled from the switches near the stairs and near the starboard side door. Small lights over the galley table are controlled by a rheostat push button near the pilothouse port door.

Climate Control

Diesel Heater

There is separate diesel fueled furnace located in the lazarette. Turn it on with the switch (pull the button out) on the aft bulkhead of the lazarette near the furnace. The furnace breaker is in the 12/24VDC pilothouse panel, but don't use this breaker to turn the diesel heater "off" until it has stopped running (it must go through its "cool down" cycle before being turned off with this breaker). Adjust the various Honeywell thermostats in each zone (VIP, pilot house, salon, Master). This system does a nice job unless it is really cold.

Routine Maintenance: Check fluid level for diesel fired furnace beneath settee on port side of Pilothouse.

Important: This tank should be filled about ¾ full, and must be checked for proper fluid level every three or four days of usage.

Electric Heaters

Additionally, there are small electric heaters in the Master and VIP staterooms. These should not be used when the boat is being powered by the inverter and the house batteries.

Air Conditioner

Overview

- The Aqua-Air marine air conditioner can either cool or heat the air temperature inside the boat. Each room (salon, galley, master berth, VIP berth) has its own thermostat panel that needs to be turned on to control the temperature and fan speed, as well as the operating mode (cool, heat, fan only, or auto).

Basic Operation

- The system pumps seawater through an exchange unit.
- The exchange unit cools internally circulated coolant to each of the four zones.

Notes

- The system uses a lot of electrical power and can easily overload both shore power as well as the 12KW generator.
- Initially use the 20KW generator to bring down the internal boat temperatures to acceptable levels.
- After that, you can experiment with combinations of the 12KW generator and/or shore power if you're able to lower the power demand from other high-draw systems in the boat (water heater, range oven, recharging the inverter batteries, etc).

Operating Checklist

- Freshwater Tank – make sure there’s enough water in the tank and that the system is pressurized.
- Thru-Hull Valve – open valve located in the engine room just outside of the port engine.
- Unit Switch – located in engine room; set to “off”.
- 20KW Generator – power on
- AC Breakers – turn on breakers for the Aqua Air Heat Pump Unit and for each desired room (salon, galley, master berth and VIP berth).
- Thermostat – for each room, set mode to “cool”, set temp with “up” or “down”, set fan to “9”
- Unit Switches – located in engine room; set to “on” and select either “cool” or “heat”.
- Gate Valve – open to allow tank freshwater to enter the chillwater system.
- Air Bleeder – open on the highest fan coil to allow air to escape from the system while water fills the system.
- Pressure Gauge – confirm 12-15 PSI.
- Note: when finished, close thru-hole valve and set unit to “off” (as a reminder that the valve is closed).

System Information

- Manufacturer: Aqua-Air
- Contact Info:
- Model:
- Serial Number:
- Date of Manuf:
- Install Date:
- Maint Contact: TBD

Specs

- Power: 220 volts (single phase).
- Power Draw: TBD

Maintenance Requirements

- TBD

Appliances

Refrigerator

The galley refrigerator is a Sub-Zero 511 built-in model. Controls for both the refrigerator and the freezer are located in the main compartment. The freezer has an ice-maker that is automatically activated when the ice tray is installed. To deactivate the icemaker, simply remove the ice tray from the freezer.

If the icemaker is not working, be sure the water supply valve (below the fridge) is turned on. It is also possible that the water supply line to the fridge is frozen. To thaw, remove the freezer drawer and put one of the portable electric heaters on the floor of the freezer, pointed at the icemaker. Run for about an hour.

The refrigerator is designed to extract moisture from the air inside the refrigerator using a condensation removal system. This pulls the moisture from the fridge and drips it into a fiberglass pan below the fridge, behind the removable wooden vent.

There are two refrigerator fans below the fridge which draws in air through the bottom vents, over a heating element. This airflow is intended to evaporate and remove any moisture in the pan below the fridge. To prevent the pan from overflowing with water, it is important to run the refrigerator fan continuously whenever possible. The switch is located high up on the wall to the right side of the fridge. These fans are operated with a “timer” located above the refrigerator. Normal operation is to set the timer to turn the fans “on” for twelve hours per day, from 8:00am to 8:00pm. This avoids noise from the fans during the night, which can be heard in the master stateroom.

In the event of a water leak, be sure to turn off the water supply valve below the fridge.

Washer and Dryer

The laundry units are located in a cabinet in the VIP hall. Don't overload the washer and make sure nothing is caught in the door when you close it or it will leak and make a big mess. These are very high quality Asko machines, and use very little soap. It uses lots of fresh water and heats its own water. However, it is recommended that wash be done using the “cold water” setting. The dryer requires lots of 220 volt AC power. The lint screen is located on the inside of the door, and should be cleaned after every use.

NOTE: The washer & dryer, in particularly the dryer, uses significant amounts of electrical power. To avoid tripping the boat main shore power breaker in the lazarette when on shore power, or overloading a generator, other high load systems, such as stovetop and oven, may need to be turned off while using the washer/dryer.

You must push one of the two left hand buttons for the washer to run.

Deck Refrigerator/Freezer

This unit will operate as either a refrigerator or a freezer depending on the temperature setting. It plugs in to a receptacle at the base of the BBQ and shows lights and controls on its outboard end. A very minimal setting is required to avoid freezing.

Barbeque

The BBQ is propane fueled. The switch and light toward the bow are inoperative. The knob is full open pointing toward the port side and adjusts lower as you move it toward the bow. It's off in other positions. You must turn on the propane tank on to use the BBQ and turn it off when finished. The BBQ is very sensitive to wind especially during the heat up period. Listen and look for the flame. An extra propane tank is stored under the BBQ. Keep the door to the cabinet open when using the BBQ and make sure all gas has dissipated when re-lighting the unit.

NOTE: NEVER fully close the fiberglass door under to the BBQ when it is lit for proper ventilation under the barbeque. Always use the stainless steel mettle lid stored next to the BBQ. Never set the mettle lid on the deck when it is hot. It will melt the deck coatings. When using the mettle lid, it seems best to offset it a couple of inches to the left, leaving approximately two inches of grill exposed on the right. This seems to help keep the BBQ lit, and it preheats better.

Internet System

Overview

The yacht is equipped with high speed internet access.

Internet Access Bridge (Air 802)

The ship's WiFi network connects to the WiFi internet service provider through an Air802 access point (model AP-G300). This access point operates in Wireless ISP mode. Login information is located in the checklist section of this document.

Internet Provider (Beacon Wi Fi.com)

The internet provider is Beacon Wi Fi. Beacon Wi Fi is connected through a wireless modem and flybridge mounted outside antenna that amplifies the signal. The ship's systems should already be connected to BBX, so the normal method to access the internet is to connect your laptop to the Lady Georgia wireless network. Login information is located in the checklist section of this document. The logon screen should appear upon opening Internet Explorer or logon is sometimes automatic.

Troubleshooting

If the logon fails try several things. 1) Find the CradlePoint router and unplug and then reconnect it. (it's usually on the shelf above the printer cabinet in the Salon). 2) Reboot your computer (you may want to try this first and do a complete shutdown). 3). Possibly disable your Internet Security software 4) Sometimes the modem and wireless router must be reset. They are located behind a panel above the port aft salon mirrored cabinets. Just unplug the power plugs at each unit for about 20 seconds with the computer "off". Make sure medium is set on the Security and Privacy tabs. Left click on the monitor icon in the lower left of the screen and go to View Wireless Networks. DEFAULT should be highlighted. Under properties Check Microsoft Network and Internet Protocol (TCP/IP) 5) If all fails try calling the Broad Band Xpress help phone listed on the logon screen (1 888 898 6990) or 1 800 729 4003 or 1 800 729 4603. This system only works in popular ports and anchorages in the area. If you fail to log off prior to leaving a port you may have to call to have the provider log you off before you can log on at the next port. To log off go to address 1.1.1.1

On board is a D-Link PCMCIA (PC Type II) wireless network modem which will plug into most laptops. Once inserted, you must log into the 'default network'. This does not require a password.

Operational Notes

General Yacht Operation

Always operate the yacht from the helm station that provides sufficient visibility, given your course, speed and sea conditions. During docking maneuvers that may require backing, always have a lookout on the aft deck or at the aft edge of the flybridge to serve as an extra set of eyes for the helmsman from the pilothouse. It is best to center the wheel and use only the engine controls to maneuver the boat backwards or forwards, while docking at slow speeds. It is extremely important that the trim tabs be in the full “up” position (bow-up) whenever the boat is maneuvered in reverse for docking. The final part of backing into a dock can be most easily accomplished using the cockpit control station.

Make sure portholes are closed and dogged tight before getting underway. They will take in water and make a real mess.

If you are piloting the LADY GEORGIA, yourself, as opposed to being operated by a hired captain, be sure that you are fully briefed on the yacht’s many on-board systems to assure yourself and your crew that your cruise will be both safe and enjoyable.

Starting the Engines

After your engine room check-over, you are ready to start the main engines.

Make sure that engine air doors are open.

Start the starboard engine first, then the port.

Make sure throttles/gearshift controls are in neutral. Turn ignition keys to the run position (alarms will sound). Push and hold in the button on the vertical face of the throttle/ gearshift controls to make the red light shine flashing red (alarms will stop). While holding the button in, and with a red light flashing, advance the throttle slightly ahead of forward idle, and start the engine. Once the engine has started, move the throttle back to the “neutral” position.

Engines will smoke a little until they warm up, so keep the rear Salon sliding doors shut when starting and idling at dock.

In the unlikely event that the starting battery voltage appears to be weak, engage the start battery parallel switch on the lower left side of the Salon main electrical panel. This parallels the two starting batteries to the house batteries for maximum starting power.

EXTREMELY IMPORTANT: The transmissions are slow to engage. In all cases, shift only at dead-idle engine speeds to avoid damage to transmissions.

ALSO EXTREMELY IMPORTANT: Check proper operation of the transmissions and throttles BEFORE untying the boat from the dock.

Observe the readings on the temperature gauges, voltmeter, oil pressure and gear oil pressure gauges.

Start each engine independently and monitor each set of gauges.

The engine start batteries are located amidship in the fore of the engine room and are maintenance free.

Refueling/Fuel Use Monitoring While Cruising

It is a good idea to refuel before the fuel levels in the tanks reach $\frac{1}{4}$ full. One reason is so you are not searching for fuel with dangerously low tanks. Another reason is to prevent any sediment that may be floating in the fuel tanks from entering fuel lines and prematurely clogging the fuel filters. Stop the fueling operation immediately upon hearing a “gurgling noise” from the fuel fill port or a messy overflow will occur.

Fuel usage is monitored by fuel “Floscan” digital readouts on the flybridge. This system indicates fuel usage rates for both engines when cruising, and also totalizes all fuel used between refueling. Upon refueling to top off the fuel tank, reset the Floscan gauges to zero before leaving the fuel dock.

Cruising

While under way, frequently monitor all gauges, including transmission (gear) oil pressure, as this is your best method of assessing the yacht’s performance.

LADY GEORGIA seems to cruise most comfortably at 1,100 to 1,400 RPM. This is not only a comfortable speed but it is more efficient for fuel consumption than higher speeds.

The engines can be operated above 2100 RPM for only short bursts.

CRUISING NOTE: The large Caterpillar 800-HP engines are designed and prefer to be run at a medium to high RPM. If run for long periods in the 1000/1200 RPM range, which is not much above idle, the engines can soot up with carbon deposits. If running in relatively low RPM mode for long periods of time, run the engines up to 1500/1600 RPM for approximately five to ten (5/10) minutes near the end of the cruising day to “blow” the soot and carbon deposits out of the engines.

Engine Shutdown

Make sure that engines are at absolute dead idle speed. Use engine kill button, then turn off key. Repeat for other engine.

Inspection Notes

Before you operate the yacht for the day, do an inspection of the mechanical systems, most of which are found in the engine room. Any problem found is much easier to fix while securely tied up at a dock, or even at anchor, than it is while adrift, mid-channel, somewhere.

Inspecting the Engines

The engine room has both 110V & 12V lights. The 110v breaker for the engine room is in the 120/240v panel, which is found in the cabinet on the starboard side of the salon just forward of the wet bar. The 12v breaker is in the 12/24-volt panel situated just to the right of the Pilothouse wheel. The actual light switches for the engine room are both immediately inside the engine room door to starboard. The switch just above them is for the engine room exhaust blowers via a breaker in the 120/240 panel.

Grab a flashlight (it will come in handy) and enter the engine room via the door via the door from the lazarette which is entered from a cockpit deck hatch. This hatch is hydraulically operated from a switch in the cabinet beneath the cockpit wet bar. It will also be smart to have a couple of paper towels in hand for wiping dipsticks clean.

Check to assure the engine room air inlet doors are open:

Toggle switches to control the engine air inlet doors are located high on the forward bulkhead of the Lazarette, just starboard of the engine room access door. Another set of engine air inlet door controls are located in the Pilothouse, in the lower most portion of the cabinet just to the port side of the helm wheel. The air inlet controls in the Pilothouse have a green indicator light confirming that the air inlet doors are closed, however, the port side green light is inoperational.

The air inlet doors operate on air pressure from the compressor, so the compressor must be running and pressurized in order for the doors to be closed (and kept closed) with the inlet air door toggle switches. However, the air inlet doors “open automatically” (fall open by gravity) anytime the compressor tank becomes unpressurized. The air inlet doors can be visually checked in the engine room by looking outboard of each engine. The air inlet doors are “open” when the relatively large air inlet doors are in the “down or horizontal” position. Due to the fact that the compressor will slowly bleed off pressure when the compressor breaker is turned off (during times of non-use), consideration should be given to propping the inlet doors in the closed position with a stick or rod during months of winter storage. Using this method, the inlet doors will not “fall open” when compressor pressure bleeds off. If the air inlet doors are “propped closed,” place a note to that effect in the Pilothouse near the engine start controls.

Check oil level in main engines. The dipsticks are located down low, near the center of the engines facing the centerline of boat.

Check transmission oil levels via dipsticks in transmissions. Transmissions take Delo 100 SAE oil...

Check: fresh water coolant level in expansion tanks on top of engines forward.

Check: bilges for water; general condition and tension of belts; hoses and fuel lines.

Check: That the fuel filter valves are set to full open (inboard of both engines; valve handle in line with fuel line) and that the correct filters are selected. These fuel filter valves are easily “bumped” by persons in the front section of the engine room, and can easily and inadvertently be bumped to partial off or full off. Generally, run with the same set of filters all the time, thus saving the other set in pristine and clean condition in case the running set becomes clogged.

NOTE: The engine hour meters are attached to the top of the engines. Add engine and transmission lubricants as necessary. All engines use Delo 400; preferably 15W-40 weight should be used.

Routine Maintenance:

- Change engine oil/filter:
- Change fuel oil filters:
- Change transmission oil/filter:

Inspecting the Sea Strainers

Outboard of each main engine, mounted to the outboard stringer, is a large sea strainer. This is sometimes called a sea water filter. It is necessary to periodically (certainly at least every morning) check to make sure that there is nothing in these strainers which would, in any way, impede the normal flow of water to the engines. If a visual inspection shows sea weed or any marine growth or other foreign object(s) inside the glass, close the seacock at the water inlet in the hull, open the sea strainer and remove and clean the stainless steel strainer, which should remove foreign material. Carefully replace the strainer, making sure that it fits exactly in place as it was designed to fit. Then close the filter tightly and open the seacock before starting the engine. Being small and nimble helps do this job

Inspecting the Generators

LADY GEORGIA has two generators: A 12 KW Northern Lights, in the engine room aft on the starboard side, and a 20KW Northern Lights, in the engine room aft on the starboard side. For most of your 110V requirements while cruising, the 12 KW will be sufficient. However, the 20 KW is best for house battery charging, oven and cooktop use, etc. If excessive space heaters are used or heating and air conditioners operated, the 20 KW will be necessary and the bus can be split in the salon 110/220-Volt panel. The sea strainers for the 12 and 20KW Generator are located just below the units. . A generator start battery switch is located just under the front edge of the Inverter mounting platform. This must be in the “on” position in order for start battery voltage to be available to the generator starters. Spare generator impellers are available in a box in the lazarette.

12 KW Northern Lights

- Check oil – dipstick is down low on engine, aft.
- Check fresh water coolant in expansion tank.
- Check sea-strainer for obvious obstructions.

Routine Maintenance: Change engine oil/filter:

20KW Northern Lights

- Check the oil level and coolant levels. Add either, as necessary.
- Check the sea-strainer.

Routine Maintenance: Change engine oil/filter:

Troubleshooting

Miscellaneous Items

Galley lights won't turn on

Make sure that the breaker for "Instruments" in the DC breaker panel is turned "on."

Buzzing noise in the master berth

Caused by the level sensor for the holding tanks. Turn off switch located in the pilot house just left of the helm wheel on the port side of the pilot's station.

Power outage while at shore

Caused by excessive electrical load tripping the breaker. Reset the breaker, which is located inside the lazarette on the top of the stern wall, just right of center. Or, reset the breaker at the shore power podium.

Toilets won't flush

Verify that the breaker labeled "Head" is turned on in the DC breaker panel. Also, if the water tank is empty, the toilets won't flush. Replenish water supply or switch toilets to use salt water.

Ships Horn doesn't work

Verify that the air compressor is on since it is required to operate the ships horn.

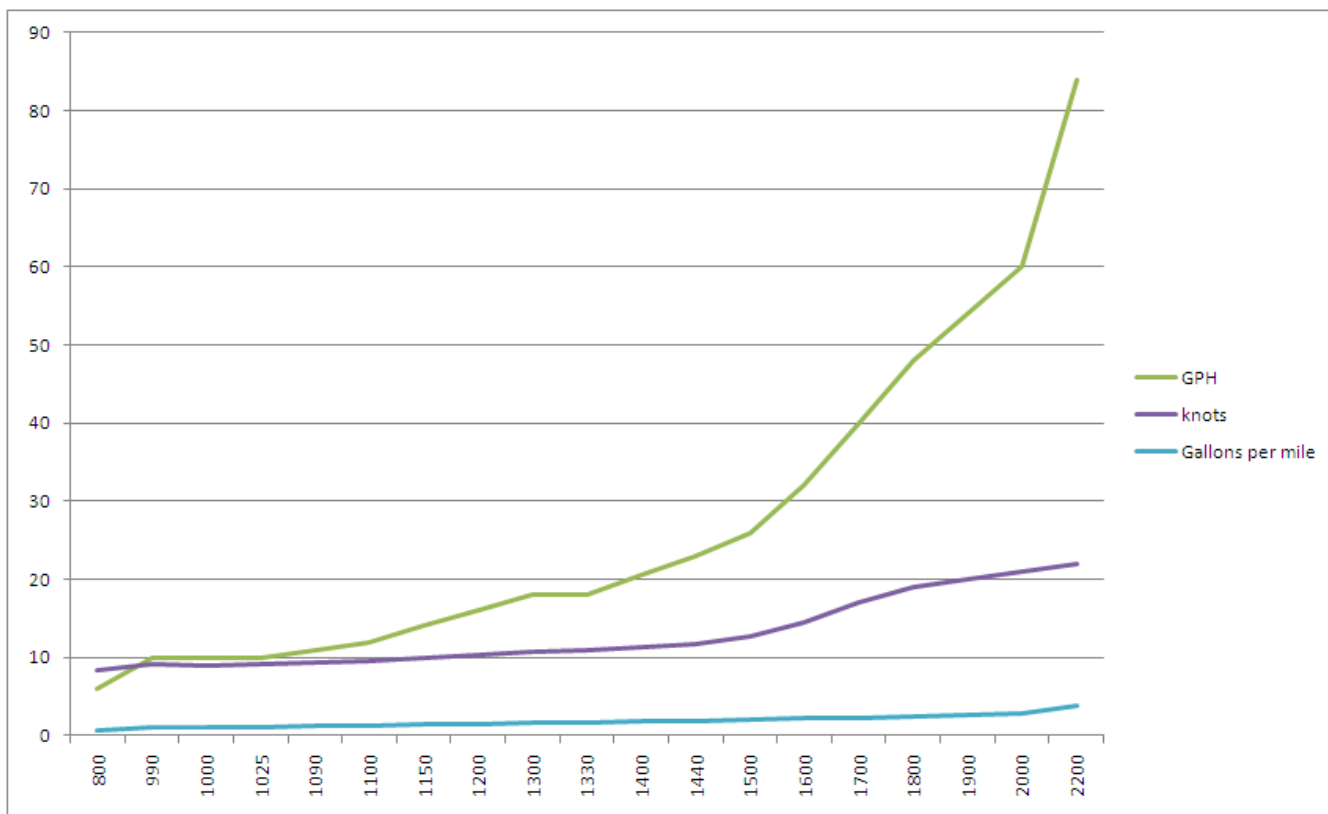
Engine Air Doors won't open or close

Verify that the air compressor is on since it is required to operate the engine air doors.

Performance Information

Fuel Curve (Approximate)

| RPM | Speed | Fuel (g/hr) | Gallons/Mile | Time (hrs) to go 30 miles | Cost (at \$3/g) |
|-------|-------|-------------|--------------|---------------------------|-----------------|
| 800 | 8.4 | 6 | 0.7 | 3.6 | 64 |
| 900 | 8.7 | 8 | 0.9 | 3.5 | 84 |
| 1,000 | 9.0 | 10 | 1.1 | 3.3 | 99 |
| 1,100 | 9.5 | 12 | 1.3 | 3.2 | 114 |
| 1,200 | 10.3 | 16 | 1.6 | 2.9 | 140 |
| 1,300 | 10.8 | 18 | 1.7 | 2.8 | 151 |
| 1,400 | 11.4 | 21 | 1.8 | 2.6 | 163 |
| 1,500 | 12.7 | 26 | 2.1 | 2.4 | 184 |
| 1,600 | 14.5 | 32 | 2.2 | 2.1 | 199 |
| 1,700 | 17.1 | 40 | 2.3 | 1.8 | 210 |
| 1,800 | 19.0 | 48 | 2.5 | 1.6 | 227 |
| 1,900 | 20.0 | 54 | 2.7 | 1.5 | 243 |
| 2,000 | 21.0 | 60 | 2.9 | 1.4 | 257 |
| 2,100 | 21.5 | 70 | 3.3 | 1.4 | 294 |
| 2,200 | 22.0 | 84 | 3.8 | 1.4 | 344 |



System Notes

Internet

Starlink (satellite)

In order for the TV to receive the signal from the satellite receiver, the DVD player needs to be turned on. The DVD player is located in the right mirrored salon cabinet behind the dining room table.

Also verify that the DirecTV unit and the satellite tracking system are both on.

T-Mobile (mobile 5G wireless)

Make sure that the breaker for “Instruments” in the DC breaker panel is turned “on.”

Cradlepoint Router

The Cradlepoint router combines the internet sources from Starlink and T-Mobile and converts it to the local WiFi network.

Navigation PC

Keyboards

There are two wireless Bluetooth keyboards – one for the pilot house, and one for the flybridge. In order to provide good Bluetooth signal strength to the flybridge, we disabled the native Bluetooth in the PC and added a more powerful Bluetooth transceiver via USB. This unit is located inside the Pilot House console at the end of a 6' USB extension cord located inside the forward portion of the Pilot House console.

The keyboards must be fully-charged to operate. They also must be set to Bluetooth mode by selecting “Function-Tab so that the green indicator light at the top of the mouse-pad is on. To save power, the keyboards frequently enter “sleep-mode” - press the shift key to wake up the keyboard.

History

The yacht was constructed in Maple Ridge, BC Canada by the Queenship Corporation. The yacht was started in 1994, finished in 1995, and commissioned in 1996.

The yacht was built to spec for the original owner, who owned a yacht brokerage company. The original name of the yacht was ***Lady of the "C"***.

The yacht was subsequently purchase by the daughter of a successful Seattle real estate developer. The yacht was re-christened ***Radiant Lady***. She used a hired captain, and sailed the yacht down the Pacific coast to Baja California at least twice. She placed a baby grand piano in the salon, and was known to hostess some fabulous events.

The third owner was a real estate developer from Denver, CO. He would fly his twin-engine plane out to Anacortes to enjoy the boat with his wife and grown sons. During his ownership, the boat was also the top yacht in the Anacortes Yacht Charter fleet.

H2 Charters, LLC, owned by Steve, Georgia, Ken and Lori Hosac, purchased her in 2008 and re-christened her "***Lady Georgia***," named after Steve's wife, Georgia. The yacht was moved from Anacortes to Lake Union in Seattle in 2019.

Ken and Lori Hosac purchased all of Steve & Georgia's shares of H2 Charters in 2021.

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