

# RADIANT LADY

## *66' QUEENSHIP CUSTOM PILOT HOUSE MOTORYACHT*

### OPERATIONS MANUAL

LAST REVISED 7/1/05

#### **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.

RADIANT LADY 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.

She has three staterooms and a very large aft salon, where there is a wet bar and a great home entertainment center. The entertainment center contains a quality stereo system for playing radio, tapes, CD's and DVD's and VHS tapes. There is a large plasma TV with surround sound to accommodate TV satellite dish, tapes & DVD. The salon has an over-large, custom-built, "L" shaped couch.

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 a wet bar, 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.

There is a large flying bridge which is also accessible via two stairways adjacent to the pilothouse, the forward portion is covered by a bimini 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, wet bar, freezer/refrigerator and rigid inflatable dinghy is cradled

The aft, master stateroom has a large queen-size bed and an ensuite head and shower. There are lots of drawers and two hanging closets in this stateroom, for storage.

The VIP suite with a large queen-size bed and a separate two bunk stateroom are located in the bow of the vessel. Each of these staterooms has a lots of drawer storage. A large head with stall shower services both of these staterooms with access from the both the VIP stateroom and the hall. An Asko clothes washer and dryer are also located in this hall.

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.

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 VCR and remote controls.

RADIANT LADY also has a water maker available that is kept in a pickled condition and must be returned to that condition.

There are several tool bags and boxes, with a reasonable complement of tools, located in the lazarette.

RADIANT LADY is cooled and heated with chill water refrigerant systems and is also heated with a diesel fueled furnace and small electric heaters

RADIANT Lady's Navionics package is state-of-the-art for your peace of mind while underway and to make trip planning and navigating your way through the islands a breeze and very accurate.

RADIANT LADY is equipped with a 2004 Dell 4600C (2.8GHz Pentium 4) computer with Windows XP, Small Office, CD-RW/DVD drive, printer and high speed internet access network usable in most marinas and many other locations.

## **INDEX**

<b><u>Item</u></b>	<b><u>Page #</u></b>
Air Conditioning and Heat	18
Air System	13
Anchor Windlass and Anchoring	13
Autopilot	16
Batteries	6, 8, 10

BBQ	17
Boarding Stairs & Ladders	17
Bow Thruster	19
Computer	17
Depth/fish finder	21
Dinghy	15
Davit System	15
Electrical Systems	4, 8-11
EMERGENCY EQUIPMENT and OPERATIONS	19
Engine Shutdown	7
Engine Startup	4-6
Entertainment System	18
Fuel System	7
Generators	5, 8
GPS	16
Heads (toilets) and Head Systems	11
Holding Tank & Discharge	11-13
Information (general)	21
Internet	17
Inverter	10
Laundry	18
Navionics Package	16
Refrigerator/Freezer (boat deck)	21
Sea Strainers	5
Search Light	18
Stabilizer	19
Water Heater	10
Water System (domestic	11

## **IMPORTANT POINTS:**

If you are piloting the RADIANT LADY, 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.

## **PRE-START CHECK LIST:**

Before you operate the vessel 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.

The engine room has both 110V & 12V lights. The 110v breaker for the engine room is in the 110/220v 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 110/220 panel.

## **MAIN ENGINES:**

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 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.

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:

### **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**

### **GENERATORS:**

RADIANT LADY 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, the 12 KW will be sufficient. 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 110/220 panel. The sea strainers for the 12 and 20KW Generator are located just below the units.

#### **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:

### **BATTERIES:**

Periodically check water level in 20KW batteries and both banks of house batteries, the rest are maintenance free. The batteries are in boxes outboard of each main engine, all the way forward by the engine room bulkhead, on the starboard side of the lazarette, in the forward bilge space (accessed through a hatch in the floor of the VIP stateroom hall) and adjacent to each generator. Add distilled water as necessary.

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

### **STARTING MAIN ENGINES:**

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

\*\* Before starting main engines, be sure that ALL ELECTRONICS ARE OFF! Voltage surges and drops, such as occurs when starting large diesel engines, can do permanent damage to most navigational electronics.

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 the button on the vertical face of the throttle/ gearshift controls to make both red lights shine solid red (alarms will stop). Engines will not start unless gearshifts are in absolute neutral and red lights are solid red (not off or flashing)

Turn engine ignition key clockwise to the “Start” position. Release it as soon as the engine starts. Engines will smoke little until they warm up.

In the unlikely event that the starting battery voltage appears to be weak, depress the rocker switch, on the pilothouse console marked parallel... This parallels the two starting battery banks 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, and worse.

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.

As soon as the engines are started, walk to the stern of the vessel and visually observe the exhausts to make sure that water is flowing from the exhausts. If it is not, immediately

kill the engines and check sea cocks, thru-hulls, pumps, belts, sea strainers, etc., to determine cause, and correct as needed before re-starting engines.

The engine starting batteries are located amid ship in the engine room forward bilge and are maintenance free.

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

RADIANT LADY seems to cruise most comfortably at 1600 to 1800 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.**

### **ENGINE SHUTDOWN:**

Make sure that engines are at absolute dead idle speed.

Turn off key. Repeat for other engine.

### **FUEL SYSTEM:**

There is only one 1025 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 vessel, on the stairs near the pilothouse doors. The overflow is located on the hull below the port fuel filler cap.

**IMPORTANT ADDITIONAL NOTE:** 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.

### **ELECTRICAL SYSTEMS:**

This yacht has a vast array of electrical circuits and devices. The electrical system is generally divided into three subsystems: 220 volt AC, 110 volt AC and 12/24 volt DC. This vessel's potential to consume electricity can exceed dock's capacity to provide it. When an electrical device or circuit is not needed, be sure the device and the circuit are turned off.

### **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.

Salon lights are controlled by a small white remote.

### **ELECTRICAL SOURCE SELECTORS:**

The electrical source selector switch is located in the 100/220 panel. The switch selects between generators, shore power and "0" which is batteries and inverter.

### **SHORE POWER:**

The shore power inlet is located in the cockpit amidships. The cable is for 50 amp 110/220 volt AC, where it is available. Some other cable options are available on the port drinking water tank in the lazarette. The breakers are located on the aft bulkhead of the lazarette. The electric shore power cable reel operates from a switch in the cockpit and has a breaker in the engine room starboard aft bulkhead. Sometimes it does not feed into its storage drum properly. Keep the hatch open enough to enable you to see it feeding into the drum and don't let the shore power cap crimp the cable.

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. 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. 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. A genset is your only option.

### **GENERATORS:**

When shore power is unavailable, ample power can be provided by either of the two generators.

## **20KW GENERATOR:**

Before starting the generator, it is advisable to minimize the number of 110 volt and 220 volt breakers that are turned on.

The Northern Lights remote control panel is in the right side of the 110/220 electrical panel (It may also be operated from a panel adjacent to the unit). Press the “Pre-Heat” rocker switch and hold it for 10 seconds. After 10 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.

Dial the AC source selector switch to the “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.

*Never run the generator for less than 30 minutes. It is best to run it for an hour at a time or more.*

To turn off the generator, reverse start-up process by switching off all circuits and main breakers. Push the generator “Start/Stop” downward until engine completely dies.

The batteries for this unit are outboard the port main engine and periodically require water.

This generator will also heat hot water via its cooling system when it is running.

## **12 KW GENERATOR:**

Before starting generator, turn off all 110 volt and 220 volt breakers.

Start the 12 KW generator from the 110/220 electrical panel (It may also be operated from a panel on the engine room rear bulkhead adjacent to the unit). **Note the controls on the generator inoperative.**

Depress the thumb rocker switch to the “Pre-Heat” position for 10 seconds. After 10 seconds, press the start rocker the switch, which engages the starter motor and will start the generator. As soon as the engine starts, release the start switch but continue to hold the preheat switch for 5-10 seconds. If the light on the start switch stays on the generator is running.

Dial the AC source selector switch to the “12 KW” position. Slowly begin to switch on the desired circuits beginning with the main breakers for each circuit set.

When finished using the generator, turn off most of the breakers and then press the start/stop rocker switch downward and hold until the engine completely stops.

The battery for this unit is inboard just below it and is maintenance free.

### **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.

Breakers in the AC panel identify those circuits that can be feed by the inverter. Caution must be used when operating the inverter as it will quickly discharge the batteries.. Turn off all unnecessary circuits and lights when not in use. Recharge with shore power or either generator, as necessary. The large batteries are somewhat echarged by the starboard engine. If you run these batteries down very far, you will lose the refrigerator, and other equipment. And, shore power will be over taxed and unable to charge the batteries without tripping the shore power breaker. For that reason, it's advisable to run a generator when off shore power for very long. The owners typically run a genset when underway or anchored except when we're in bed or things are really quiet.

### **ELECTRIC WATER HEATER:**

The electric water heater runs off the 220-volt system. It can be used only with the generator operating unless on 50 Amp/220 volt shore service, when available. The circuit breaker is on the 110/220-volt panel. The hot water heater can also be heated by a coolant heat exchanger from the 20 KW generator, when it is running.

**EXTREMELY IMPORTANT:** Do not use the electric water heater if the water tks are very low or if they run dry. The electric element may burn up if the tank has no water.

### **12 /24 VOLT SYSTEM:**

The 12/24-volt system runs the electrical systems necessary to operate many of the systems on the vessel. Bilge pumps, water pumps, electric toilets, navigation lights, electronics, etc., are 12 or 24-volt systems, as are most of the house lights. Some of the 12 volt system is powered by a 12 volt converter whose breaker is in the 12/24 panel. Most interior lights are actually 12 volt AC from several 110 to 12 volt step down transformers. There is also a 12 volt breaker panel inside the pilot house console (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.

The main 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 drain the house batteries of power if they were left on during a long evening.

For most of the pilothouse lights to work use the switches and rheostat by the pilot house port door or the Instrument breaker in the 12/24 volt panel must be in the “off” position.

The large 24 VDC battery bank on the starboard side of the lazzerette and engine room are for the 12/24 VDC systems and the inverter. For many 12VDC systems the 12V converter breaker in the 12/24 VDC panel must be on. This bank of batteries is charged by shore power, Generators and/or the starboard engine.

### **BATTERY SWITCHES:**

The battery switches are located in the engine room aft bulkhead starboard side. You should leave these switches on “both” unless the boat is going to be left unattended and without shore power for 24 hours or more. There is a deadman button switch in the cabinet below the cockpit wet bar. It parallels batteries to operate systems in case of a battery failure. There is also one on the pilot house panel to aid in starting engines in case of a battery failure.

### **DOMESTIC WATER SYSTEM:**

RADIANT LADY 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 vessel 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.

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.

**NEVER FILL BOTH FUEL AND WATER TANKS AT THE SAME TIME.** 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 or plumbing and will necessitate the removal and replacement of the entire domestic water system, including tanks, pump and plumbing.

### **MARINE HEADS AND HOLDING TANK:**

This vessel has two heads, each with an electric Royal Flush toilet. It has two black water holding tanks. The main black water tank, located in the VIP bilge, is accessed from the hall floor. It takes waste from the VIP head or the master 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 overboard is started by the macerator breaker in the 12/24 VDC panel. The master black water tank is located beneath the master bed. It receives waste from the master head only. It discharges through a Y-valve, located in the VIP bilge, The

discharge either goes overboard or to the main black water tank. The discharge pump, located next to tank, is started by a rocker switch labeled “Master stateroom waste tank” on the pilothouse console via a breaker in the 12/24 VDC panel marked “master holding tank”.

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 never reads 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.

*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.

#### **ELECTRIC ROYAL FLUSH 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 and snake behind one of the toilets and a few strokes usually does the job. If needed remove the cleanout cap. Toilets will not flush properly if its waste is full.

To ensure troublefree 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 use fresh/domestic water. The water tank must be adequately full and the water pump breaker must also be on.

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 vacuum, 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.

### **HOLDING TANK:**

**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 macerator 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. When finished with the macerator, close the thru-hull valve.

To pump the holding tank out at a marina pump out, via the deck discharge suction opening, the Y-valve handle must be set to that position. The deck suction opening appears to be similar to the fuel and water fill openings, but is clearly identified as "WASTE".

### **AIR SYSTEM**

The air compressor is used needed for the ships horn and to operate the engine room combustion air doors. An air hose and air chuck are also available in the lazarette for any other purpose

### **ANCHOR WINDLASS:**

#### **WINDLASS:**

The primary on/off breaker is located on the 12/24 volt-DC panel. The battery for the windlass is located outboard the port main engine.

There is a pair of foot switches on the 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 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.

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.

### **ANCHORING:**

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.

Back the boat down on your anchor and "stretch" the chain to make certain that the anchor will hold. This is called, "setting the anchor".

Monitor vessel's position periodically after setting anchor to see that anchor remains set. This is important if it becomes windy or there is a current.

There is a 400' line in a box in the lazarette that can be used as a stern shore tie, if desired.

When retrieving the anchor, (weighing anchor) be sure to **have both engines running**. Move the vessel 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. Post a watch to watch for when the anchor is about to break the surface of the water to alert you to stop the windlass to prevent the anchor from swinging into the bow of the boat. It is important to follow this procedure, as failure to do so can easily result in further "setting" the anchor and making it impossible to retrieve. This can make for a very dangerous and costly situation from which to extricate the boat and yourself and your guests.

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. From that point, slowly retrieve the anchor to its nesting position (anchor flukes facing down). This is the correct time to wash the mud from the anchor, the chain and, then, from the deck. The hose is stowed in the fender lockers on the forward deck.

There is a second anchor in the lazaretto bilge

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

## **DAVIT SYSTEM:**

The davit is designed to lift just the dingy 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 breaker is located on the engine room starboard aft electric panel on the outboard side (hard to read).

## **DINGHY USE:**

Prime the fuel line by squeezing the bulb in the fuel line and choke engine once while starting. The choke is manually controlled on the throttle/shift control or on the engine.. Make sure engine controls are in neutral when starting. Keep the dingy three compartments fully inflated when in use. A foot pump is stored in the dingy that works surprisingly fast and easily. Dingy spares and parts are stored in the boat deck cooler, including spark plugs, battery charger and a patch kit..

The dingy 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: monthly

## **USE OF AUTOPILOT:**

WARNING: IF AUTOPILOT IS ENGAGED, HELMSMAN SHOULD NEVER LEAVE HELM STATION. WHEN BOAT IS UNDERWAY, VIGILANCE MUST BE MAINTAINED REGARDING THE CONDITION OF THE SEA AHEAD. Collision with floating debris 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. Pressing the appropriate button on the Robertson controls on the panel, immediately forward of the pilothouse or flying bridge helm wheel activates the various functions. The autopilot can either keep an assigned heading or take an input from the GPS or the Ocean PC.

Autopilot setup notes

Nobeltec Navigator receives GPS via COM2  
Nobeltec Navigator sends course data to autopilot via COM2  
Autopilot Nav1 mode receives course data from Nobeltec  
Autopilot Nav2 mode receives course data from CP33 GPS

To switch between Nav1 & Nav 2 on AP300X press Nav twice then press green arrow  
(STBD course adjust twice until you see setup  
Turn autopilot knob to select Nav Source – Nav1 or Nav2

## **USE OF GPS:**

The GPS is considered a navigational aid. Feel free to use it, but do not rely solely on it. The compass, charts, dividers, etc. are considered safe and accurate primary navigational tools. You must be continuously aware of your appropriate position, course and speed using the navigational tools, especially 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 will really “throw” the compass well off the mark and can send you in the wrong direction.

## **NAVIONICS PACKAGE:**

This is the part of this fine yacht that will most amaze the skipper. Long after this vacation has ended, you will still be talking about the computer driven by a Nobeltec

Visual Navigation Suite 7.0 package. It includes GPS and the most recent, high-tech, electronic chart-reading software with 3-D bathymetric charts. Of course, the onboard computer system is linked to the Robertson autopilot. There are two radar systems a Furuno 48 mile and a Furuno 64 mile system. In all, this system makes trip planning and point-and-click navigation a dream.

Another important feature is that most displays at the pilothouse helm are duplicated at the control station on the fly bridge. It, too, is run via the wireless keyboard and mouse. Both monitors are state-of-the-art daylight flat screens mounted so as to be very easy to see and read in all lighting and weather conditions.

The computer and monitors have an uninterruptible power supply (battery) located beneath the computer that will beep when regular power is lost. They receive 120VAC power from the computer breaker.

### **COMPUTER and INTERNET**

RADIANT LADY is equipped with a complete computer system with high speed internet access. The computer is located in a cabinet just to port of the pilot house helm. It is the heart of the NOBELTEC chart plotter system and provides many other normal computer uses such as word processing, spread sheets, CD-RW/DVD drive and digital photo processing. It is powered by the “computer” breaker in the 12/24 volt panel through a full sine wave 24 volt to 120 volt inverter from the ships batteries.

The internet provider is Broad Band Xpress; Our internet user name is *radiantlad* (no y) and the password is *radiant*. The logon screen should appear upon opening Internet Explorer or logon is sometimes automatic. If the logon fails try several things. 1) Find the D-Link DWL-G120 and unplug and then reconnect it. (it’s usually on the shelf in front of the computer). 2) Reboot the computer (you may want to try this first and do a complete shutdown). 3). Check to be sure the Norton Internet Security globe in the lower right screen tray is disabled (has a red “x” on it). If not, click on the globe and disable. 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”. 5) Go to Internet Explorer, Internet Options, General Tab make sure MSN.com is the Home Page. 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) 6) 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. This system only works in popular ports and anchorages in the area.

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

### **BOARDING STAIRS AND LADDER:**

RADIANT LADY comes equipped with swim ladder stowed in the lazarette.

## **SEARCH LIGHT**

The search light is operated from the flying bridge console via a breaker in the 12/24 VDC panel. It can be directed up, down or side to side. “S” and “F” indicate spot or flood.

## **BBQ**

The BBQ is propane fueled. The switch and light toward the bow are inoperative. The knob is full open pointing toward the bow and adjusts lower as you move it to starboard. 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 in the cooler near the BBQ

## **AIR CONDITIONING AND HEAT SYSTEMS:**

RADIANT LADY has an excellent chill water A/C system (with reverse cycle capability). Breakers in the 110/220 panel turn on the chiller and the separate zones each with their own thermostat. This system can use lots of electrical power overloading shore power and even the 12KW generator. A look at the 110/220 panel will illustrate the various power options. This system can also work as a heater. A switch on the chiller/compressor unit, just aft of the port engine, lets you choose the A/C or heat mode. When using this system the appropriate power source must be selected in the 120/220 panel.

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 panel (but don't use it to turn the unit off and on as the furnace needs to cool down). Adjust the various Honeywell thermostats in each zone (VIP, pilot house, salon, Master). This system does a nice job unless it is really cold.

Additionally, there are small electric heaters in the Master and VIP staterooms. Look in the cabinets and drawers to find them.

**Routine Maintenance:** Check fluid level for diesel fired furnace beneath seat on port side of wheelhouse.

## **LAUNDRY**

The laundry is 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, use very little soap, lots of fresh water, heats its own water and have a strange cycle. The dryer requires lots of 220 volt AC power. The lint screen is located on the inside of the door.

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

### **ENTERTAINMENT SYSTEM:**

This system is the typical user un-friendly system with a bunch of remotes. It is best to point each remote at the unit you're commanding. Radiant Lady has DirecTV with a SeaTel dish. The on/off switch for the dish is located to the right of the sat receiver. Please remember to turn it off when not in use. There is a separate DirecTV receiver in the VIP stateroom with its own remote.

For TV, the channel selector on the VCR/DVD unit below the sat receiver must be set to L1. And for VCR/DVD it is set to CH12.

The Master stateroom receives TV on CH3 using the salon sat receiver.

The SALON DIRECTV, DVD/VCR breaker in the 110/220 panel powers the VC/DVD and the salon dish receiver (not the dish itself).

Inputs on the Plasma TV may be changed to look at what's on the compute or chart plotter (it's a monitor)

### **USE OF BOW THRUSTER:**

Radiant Lady's 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 short bursts. Extensive continuous use will over heat and damage this unit.

### **USE OF STABILIZER:**

The roll the stabilizer on RADIANT LADY works quite well. The pilothouse console has an on/center/off rocker switch which is powered through a breaker in the adjacent 12/24 VDC panel. When first turned on the system often will show a high temperature light which can be ignored and usually goes out after a short while. Do not operate the system in a marina or shallow waters and 'center' it before shutting it down.

### **EMERGENCY EQUIPMENT and OPERATIONS:**

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

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.

Emergency beacon: Can be found strapped to the port rail on the boat deck.

Man overboard kit: Located on the starboard side of stern rail of the boat deck. It may also prove effective to learn the Williamson man overboard procedure.

Man overboard position: The location can be marked and remembered by the GPS by pushing the MOB button. And on the chart plotting computer

Radiant Lady has a life ring located on the cockpit bulkhead.

Cold Water Immersion Suits: Several are located beneath the wet bar on the fly bridge/boat deck and others are beneath the cushions on the port side of the fly bridge seats.

Life jackets: Numerous life jackets are onboard the RADIANT LADY. In the tender, in the flying bridge wet bar cabinet and beneath the cockpit seats.

Foul weather gear: A rain suit is located beneath the cockpit seats.

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

Ships whistle: It is good to understand the meaning of various whistle signals. This system uses air from the air compressor to operate the dampers. The breaker on the 120/220 panel must be on and 120AC available to charge the air compressor

Radios: RADIANT LADY has several marine radios and phones that may be useful in an emergency.

Flares and flare guns: This equipment is found located in an orange cylindrical container in the salon wet bar cabinet with a fire extinguisher. A similar kit is located on the tender

The RADIANT Lady's bell is stored in the pilot house below the computer.

Fire extinguishers: Several manual and automatic fire extinguishes are found on RADIANT LADY. The engine room and lazarette have automatic/manual ones and others are located in marked cabinets around the vessel.

Hull repair kit: For emergency repair of small holes in the hull above or below the waterline. Located in the salon wet bar cabinet.

Dingy repair kit is located in the boat deck cooler

There is a portable air horn in the cabinet aft of the pilot house port side door.

A distress flag is located in the tender flare kit.

Whistles are located in the pilot house chart drawer and on the tender and many of the lifejackets.

The engine room air intake dampers can be closed by switches located on the forward lazarette bulkhead. This system uses air from the air compressor to operate the dampers. The breaker on the 120/220 panel must be on and 120AC available to charge the air compressor

The engine room door is a water tight door.

The engine room sometimes requires the engine room exhaust blowers for adequate ventilation and cooling. The switch is located just inside the engine door to starboard via a breaker on the 120/220 panel.

The hailing system is inoperative.

## **DEPTH/FISH FINDER**

RADIANT LADY has three separate depth finder/fish finder sonars. The Link system is turned on by the depth sounder breaker in the 12/24 VDC panel. This unit reads depth, speed (poor accuracy), water temperature and relative wind speed and direction. It has displays on the pilot house and flying bridge consoles as well as in the master and VIP staterooms.

The Furuno FCV 582 unit on the pilot house console is a color recording depth finder with a variety of capabilities.

The American Pioneer fish finder sonar unit has controls located on the pilot house console just forward of the autopilot controls. It utilizes one or more of the computer monitors to show a large variety of data displays. Switches are located by the chart light, waste water tank level monitor on/off switch and on the flying bridge to select a monitor/s. You need to look at the manual to really appreciate this units capabilities.

## **BOAT DECK REFRIGERATOR/FREEZER**

This unit will operate as either a refrigerator or a freezer depending on the temperator 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.

## **GENERAL VESSEL OPERATION:**

Always operate the vessel 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, while docking, or at very slow speeds. It is extremely important that the trim. tabs be in the full “up” position (bow-up) whenever the boat is maneuvered for docking. The final part of backing into a dock can be most easily accomplished using the cockpit control station.

Specific operating information on the fine points of what makes the Navigation and Communication equipment work is to be found in a file box located in one of the cabinets in the pilothouse. One location is in the compartment at the starboard side of the wheel, where the secondary 12-volt panel is situated. The other location is in the cabinetry below the helm seating in the pilothouse.

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

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.

RADIANT LADY is one of the largest powerboats in the world available for bareboat chartering. This yacht's owner, the insurance carrier and Anacortes Yacht Charters are entrusting a lot of machinery to anyone who is approved to bareboat charter her. We only ask that you respect this relationship by taking good care of the yacht and her equipment. If you will do that, she will take good care of you. You are sure to find her to be one of the friendliest yachts afloat.

Enjoy your time aboard!