OPERATIONS MANUAL FOR

Orca Belle

53’ NAVIGATOR CLASSIC

Updated August 20, 2023

Welcome aboard the Orca Belle. As owners we have made every effort to make this manual include relevant information so that you can have a safe and memorable vacation aboard the Orca Belle.

The Navigator 53 Classic is a California built pilothouse yacht whose traditional styling and spacious interior has made her a very popular cruising yacht since first introduced in 1995. She is built on a solid fiberglass, easy-riding modified-V hull which delivers a comfortable ride. She has a three stateroom, two head layout, a full-beam very spacious salon (with a sleeper sofa) and a U-shaped dinette in the pilothouse. On deck the cockpit is exceptionally large and up on the flybridge a wrap-around lounge seating can seat a small crowd.

The name “Orca Belle” comes from two sources. My father owned several boats and he included “Belle” in their names to honor my mother who he treated as a “southern belle” (she was from Louisiana). We are continuing that tradition.
Over the years our family has had the privilege of experiencing many encounters with orcas. Hence the name “Orca Belle”. Even if you don’t see any orcas on your voyage, enjoy all the other treats and experiences the Salish Sea has to offer. It’s one of the most scenic areas in the world.

If you have questions about the boat or about places to visit, please do not hesitate to ask the AYC staff.

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INTRODUCTION

Familiarize yourself with the various systems outlined in this manual. This boat has many features that are designed for easy use, comfort, convenience, and safety. Proper use and thoughtful care will ensure your trip will be safe and relaxing.

There are operational manuals with individual manuals of the engines, instrumentation, and most of the systems on "Orca Belle". These operational manuals cover repairs and maintenance of major items as well as operating procedures for use of the various accessories and systems on the boat. These manuals can be found in the aft most cabinet on the port side of the salon.

SPECIFICATIONS

The Orca Belle was manufactured in Parris, CA, USA by Navigator Yachts. Navigator Yachts are strong durable yachts designed for the pleasure boater. Navigator Yachts systems are very straight forward and are very easy to cruise and maneuver.

Length:	53 feet
LOA:	57 feet
Beam:	15 feet
Draft:	4 feet & 3 inches
Displacement:	46,000 Lbs.
Fuel:	600 Gallons
Water:	175 Gallons
Waste:	70 Gallons

ACCESSORIES LIST

Tool Kit:	Located in the storage area under the galley.
First Aid Kit:	In drawer under starboard counter.
Flashlights:	Located in containers in the salon, in the master and guest staterooms and one in engine room.
Davit Controller:	Located in fly bridge cabinet.
Fluids & oils for Engines:	Located under galley.
Funnels:	Located under galley.
Crab trap and crab ring:	Located under galley.
Emergency anchor and rode (25' chain, 150' line):	Located under galley.
Utility bucket with line:	Located under galley.
Key for dingy:	In Pilothouse key rack cabinet (starboard side).
BBQ grill:	Located under the galley.
Life Jackets:	Located under seats in fly bridge.

OPERATING ORCA BELLE

PRE-START CHECK LIST

Before you operate the vessel for the day, do an inspection of the mechanical systems and the engine room. Any problem is much easier to fix while securely tied up at a dock, or even at anchor, than it is adrift.

CHECK MAIN ENGINES

1. Turn on engine room lights breaker on 12-volt panel. Turn on the engine room lights as provided.
2. Grab a flashlight and enter engine room via hatch in cockpit or below the galley.
3. Check oil level in main engines. Dipsticks are down low near center of engines facing centerline of boat. **You need to pull the dipsticks, wipe, then reinsert and pull again to get a proper reading. The level should be between the 2 marks. Please use a paper towel or oil rag, not the dish towels!**
4. Check the coolant level in each engine. The easiest way to do this is to take filler cap off and feel for coolant. The coolant level should be one inch from top.
5. Check for water in bilge, general condition of belts, hoses, and fuel lines.
6. Check sea strainers directly in front of engine for obvious obstructions.

NOTE: In case of engine overheating or lack of raw water coming from exhaust shut down engine immediately. Then close through hull for engine raw water intake, and disassemble sea strainer and clean basket. Re-assemble sea strainer, open thru hull and restart engine. Check immediately for water flow out of exhaust. Make sure raw water system has picked up a prime. If not, shut down and close the thru hull and open top of sea strainer. Fill to brim with water in order to get a prime. Re-assemble sea strainer, open thru hull, restart engine and check for raw water flow.

7. Check transmission fluid levels. Take care in reinserting dipsticks.

CHECK GENERATOR

1. Enter engine room from the lazarette or the galley
2. Open hatch at left side of sound shield.
3. Check oil — dipstick is down low on the inside of both engines.
4. Check coolant level.
5. Check sea strainer for obvious obstructions.
6. Check fuel filter for water and contaminants and drain as needed.
7. Close sound shield and close lazarette or galley hatches.

CHECK PORTHOLES

Make sure all portholes are closed before departure.

STARTING MAIN ENGINES

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

1. Turn on the engine start switch. Monitor the engine preheat light. When the engine preheat light blinks out, you are preheated and ready to start the engine.
2. Make sure gearshifts are in neutral, <u>at both helms</u>**. Engines will not start unless gearshifts are in neutral.**
3. Turn engine keys to full clockwise position to start the engines and release after the engines start.
4. Observe readings on tachometer, voltmeter gauge, and oil pressure. Engine temperature should rise slowly.
5. Start each engine independently and monitor each set of gauges.
   Immediately after engine start. Look over the port and starboard sides to confirm that water coolant exhaust is operating. If not, then immediately shutdown. Start the port engine first. The port engine alternator charges the port engine battery and the generator battery. The starboard engine alternator charges the starboard engine battery and the house batteries, (6).

   NOTE: If for some reason, there is not enough power in the starting battery, there is a switch on the Pilothouse control panel, right side, that will connect all the battery banks and allow the starting of the engines using all the batteries.
   PLEASE NOTE: Once the engines are started, put the switch back to its original setting, that is separating the battery banks. It is very important to keep the battery banks separate or else one bad battery could bring down the entire electrical system on the boat.

ENGINE SHUTDOWN

Turn off the engines, with the engine keys by fully turning the keys counter clockwise. Following engine shutdown, turn the engine keys briefly to clockwise and then back counterclockwise to cause the engines RPM to indicate zero at complete shutdown.
NOTE: Make sure both the Pilothouse and Flybridge keys are in a vertical position meaning everything is off. If you had started the engines in one location but shut them off from a different location, you may forget to turn them both off and you will run down the starting battery by keeping the engine preheaters on.

ELECTRICAL SYSTEM

The electrical system on the Orca Belle is divided into two subsystems: 110 volt AC and 12 volt DC. The 110-volt system consists of two legs of 110 volts. Orca Belle does not have 220-volt power.

The electrical panel on Orca Belle is very straight forward. The electrical panel is divided into the DC side or batteries and the AC side which is shore power or generator power. If neither is being used then it uses the inverter batteries. Orca Belle does not have 220 volt service. Care should be taken not to exceed the boat's limit to provide electrical power, especially the AC switches when only batteries are being used. All breaker switches on the electrical panel are labeled. (See complete descriptions below)

There is a small display aft of the electrical panel which will display the status of the three battery banks:

- House batteries – powers DC systems.
- Inverter batteries – powers AC systems through the aft inverter if neither shore power or generator is going.
- Start battery – To start the engines. Should be isolated from the other batteries.

This vessel's electrical demand can exceed the dock's capacity to provide. When an electrical device or circuit is not needed, be sure the device is turned off.

110 VOLT SYSTEM (AC)

1. The 110-volt system breakers are on the right-hand side of the electrical panel
2. 110-volt power can be obtained from three sources:
   a. Shore power
   b. Generator
   c. Inverter

SHORE POWER

Orca Belle has a unique system to connect to shore power. There is a spool of 40' power cord inside the engine room. First turn on the "Cable Master' switch on the main electrical panel. Then there is a switch on the starboard side of the swim deck which will either send out power cord or retract it. There is a yellow extender also in the engine room if you need more length.

After connecting to the shore power location on the dock, you may have to flip the circuit braker at the dock connection. Then at the ELECTRICAL PANEL, flip the SHORE CIRCUIT BREAKER on. Check reverse polarity indicator light. If on, disconnect shore power and contact AYC ASAP. If not on, then turn on the appropriate breakers for battery charger, refrigeration, water heater, etc. Watch your amp meter for load. If the load exceeds amperage, you will

pop your breaker. If this occurs, turn off some items (e.g. water heater) and wait to turn on one of your systems until your use of electricity drops.

If your outlets fail to work, check your GFIs to make sure that they have not been tripped. Be aware that one GFI breaker may supply plug-ins in several areas.

NOTE: When connected to shore power, priority should always be given to the battery charger breaker that charges all batteries from and thru the inverter. Always turn it on.

Be certain to check thru Line 1 and Line 2 on the AC panel for voltage and amperage on both lines. Some marinas can experience poor shore power facilities. If the salon, galley, staterooms and pilothouse plugs are off, then the line voltage and subsequent amperage on Line 1 is insufficient. The quick fix is to tighten your connections or shut off the shore power and then change.

If you only have 30 amp service from shore, there is a 30 amp to 50 amp, 125v/250v adapter. If only 50 amp, 125v from shore there is a 50 amp, 125v to 50 amp, 125v/250v adapter. Both are in the engine room. NOTE: 30 amp service will only power some of the AC systems, normally the 1st AC column.

GENERATOR

When shore power is unavailable, the generator can provide ample 110-volt power.

1. Turn off the shore breaker, located on the bottom of the 110 volt panel.
2. Press and briefly hold the generator start toggle switch to start the generator. Once the generator starts, the toggle start toggle switch will flip to the center position.
3. Let the generator run for 30 seconds before performing the below steps.
4. Turn the main generator breaker on.
5. Switch on the desired breakers for 110 volt service from the generator.
6. To turn off generator, Turn off main generator breaker and push toggle switch.

NOTE OF CAUTION: The main generator breaker must always be off before the generator is started or stopped. A mechanical lock on the electrical panel will allow only generator power or shore power.

INVERTER

The inverter is truly automatic and you should not find it necessary to adjust any of its settings. The best thing is leave it alone unless there is an issue. If so, then please take a picture of it and forward to AYC for a discussion.

110-volt power can be provided by the inverter, which uses 12-volt battery power to make 110 volt AC current. 110-volt power is very limited with the inverter because it comes from a limited source (the inverter batteries). You cannot run, on the inverter, heaters, microwave, hair dryers, TV, etc. at the same time or for any length of time. It will drain the batteries.

The inverter's best use is to provide low wattage, or intermittent 110 volt power during an evening at anchor to save the generator from constant short start-ups and shut downs.

When the boat is on shore power or has the generator running, the inverter becomes a battery charger.

When there is no shore power or generator power, then turn off 110-volt power sources which are not needed. This should be done at night while at anchor, etc. When using the inverter alone for 110-volt power, it is a good idea to make sure the battery charger breaker is off on the 110-volt panel.

12 VOLT SYSTEM (DC)

The 12-volt system runs the electrical systems necessary to operate the vessel; bilge pumps, electric toilets, navigation lights, house lights, electronics, etc.

The 12-volt circuit breakers are located on the left-hand half of the electrical panel console. Use only the circuits needed while keeping the others off. There are enough lights and other 12-volt devices to drain the house batteries of power if they were all left on during a long evening when not connected to shore power of the generator.

The HOUSE BATTERY BANK provides power for all DC systems, except the engines and automatic bilge pumps. When disconnected from shore power, all 12-volt devices drain the house batteries. Use devices as needed. The DC voltmeter on the DC panel can be switched between Port, Starboard, and House Battery banks to measure charging or resting battery voltages.

When a battery bank is being charged, the voltage will read from about 13.1 volts to 14.4 volts depending upon state-of-charge of the battery bank. When the battery bank is at rest, (that is, not being charged), the voltmeter can give a rough indication of the state-of-charge of the battery bank.

Voltage (Wet Cell Battery)	**Battery State**
12.65 volts	100%
12.47 volts	75%
12.25 volts	50%
11.95 volts	25%
11.70 volts	0%

The batteries are charged by the engine ALTERNATORS while underway. The engine/house batteries are charged by the BATTERY CHARGER when connected to shore power. Ensure the Battery Charger and Inverter circuit breakers at the electrical panel are ON.

BATTERY SWITCHES

The battery switch box is in the engine room, port side above the house and generator batteries. Leave these switches on. Each switch is marked as to which battery bank it corresponds to.
We recommend to just leave all of this alone unless there is a real problem and then it would be best to photograph and contact AYC for discussion.

EXTREMELY IMPORTANT: Make sure the inverter switch and battery charger breakers are off before crossover switch is turned on. If both are on when crossover switch is turned on, it will destroy the inverter.

THE MAIN ELECTRICAL PANEL SWITCHES AND THEIR DESCIPTION/USE

DC Columns (Black Switches in two columns on left side - Uses 2 house batteries in stern). These generally use less power.

1st COLUMN

FWD BILGE	Leave on always. Pumps water in bilge overboard
AFT BILGE	Leave on always. Pumps water in bilge overboard
HORN	NA
MACERATOR PUMP	Use only in Canada. Switch lever under fwd stateroom to overboard then switch this on to pump holding tank (sewage) overboard.
DC FRIDGE	Powers main fridge in Galley. Leave off if shore power/Generator are on (and DC Fridge switch is on). Can leave on if main engines are running else leave off.
TRIM TABS	Turn on to use trim tabs
WIPERS	Turn on to use windshield wipers in Pilothouse
FRESH WATER PUMP	Leave on always - unless it constantly cycles. Means leak somewhere in system then turn off if no water is needed (flushing/Galley).
FWD HEAD	Turn on to use foward head
AFT HEAD	Turn on to use aft head
TANK MONITOR	Turn on to use Fresh Water & Holding tank gauges in Pilothouse
WASH DOWN	Turn on to use hose by anchor
HEAD PUMP	Turn on when using the heads

2nd COLUMN

NAV LIGHTS	Turn on at night then use switch above to select either Running Lights or Anchor Light
ARCH LIGHTS	Turns on lights in Flybridge
FWD LIGHTS	Turns on lights in Stateroom area
AFT LIGHTS	Turns on lights in Salon
MASTER S/R LIGHTS	Turns on lights in Master stateroom
ENGINE RM LIGHTS	Turns on lights in engine room
COCKPIT LIGHTS	Turns on lights in cockpit
PILOTHOUSE LIGHTS	Turns on lights in pilothouse
SPOT LT	NA
INTERCOM	NA
CABLE MASTER	Turns on power to shore power electric cable motor in stern
ELECTRONICS	Turns on power to Navigation systems
UNDERWATER LIGHTS	Turns on underwater lights. Also need to flip switches in aft of salon and starboard side of cockpit

AC Columns (White Switches – in two columns, right side). Uses Shore power/Generator. If neither, uses 4 inverter batteries in stern). These systems generally use more power and will quickly run down the batteries when not using the Generator or under Shore Power.

3rd COLUMN

BATTERY CHARGER	Emergency charger - leave off unless you want to do an emergency charging of batteries
OUTLETS	Leave off unless on shore power or generator
OUTLETS	Leave off unless on shore power or generator
ICE MAKER	Leave off unless on shore power or generator. Powers the ice maker
WASHER	Leave off unless on shore power or generator. Powers the washer
VACUM	NA
AIR PUMP	Leave off unless on shore power or generator. Turn on to use the local heat/AC units
FWD AIR	Leave off unless on shore power or generator. Turn on to use the stateroom heat/AC units
PILOT AIR	Leave off unless on shore power or generator. Turn on to use the pilothouse heat/AC unit

4th COLUMN

AC FRIDGE	Powers same fridge as DC Fridge. Leave off unless on shore power or generator is on . Powers fridge using AC power.
HOT WATER	Leave off unless on shore power or generator. Powers the hot water tank
STOVE TOP	Leave off unless on shore power or generator. Powers the stove top
MICROWAVE	Leave off unless on shore power or generator. Powers the microwave oven
DRYER	Leave off unless on shore power or generator. Powers the dryer
BOW CHARGER	Leave on all the time. Charges the separate forward house battery bank which powers the Diesel Heater and the Navigation Systems
MASTER AIR	Leave off unless on shore power or generator. Turn on to use the local heat/AC units
AFT AIR	Leave off unless on shore power or generator. Turn on to use the salon heat/AC unit
INVERTER	Leave on all the time. Charges all the batteries.

NAVIGATION SYSTEMS

There are two separate navigation systems on the Orca Belle; The Times Zero system used in the pilothouse and the Garmin system used on the flybridge.

TIMES ZERO

There is a complete separate electrical system for the pilothouse navigation system. It runs off a complete separate set of batteries not previously discussed. You turn them on by pressing the button on the switch on the edge of the wall just aft of the electrical panel. This will power up the front navigation system through the power strip there. You also need to turn on the Electronics switch on the electrical panel as well.

STEPS TO BRING UP

1. If you intend to use radar, turn on the radar switch first. It is labeled "RADAR" and is to the right of the steering wheel on the console.
2. Turn on tower computer – it takes a few minutes
    a. If it won't power up, check the power strip next to the computer. Make sure it is turned on.
    b. If the power strip is not on, press the small black reset button on the starboard side of the salon, just aft of the main electrical panel.
3. Once the computer screen comes up, the screen should display "Orca Belle Guest". If not, you may need to press the button on the mouse.
4. Using the keyboard, enter "Guest".
5. Select "TimeZero Professional".
6. On Terms of Use screen, press Navigation button.
7. NOTE: It is a touch screen so you can zoom in or out by using your fingers.
8. The top left button recenters the screen. There are several other button which you can play with.

FOR DOUBLE SCREENS

1. Select Options
2. Initial setup
3. At unlabeled box at button for options – choose "2" for double screens

FOR RADAR

1. In top ribbon on screen, under radar, select "Transmit"

FOR DEPTH FINDER

1. Pull off cover and store.
2. Push start button
3. Replace cover when finished.

GARMIN

Simply press the power button on the Garmin screen to bring up. Wait a few minutes. Follow the steps for the TIME ZERO system if there's no power.

VHF RADIOS

Instructions for use of the VHF RADIOS are in the "Operations Manual" stowed in the V-berth stateroom.

ENTERTAINMENT

Orca Belle has 2 TVs and DVD players (please bring your own DVDs). The one in the salon can be accessed by pushing “2” on the control to the left of the TV cabinet. This will raise the TV. Press “1” to lower it.
The DVD player and stereo receiver are in the cabinet to the right of the TV.

There are TV’s both in the master stateroom and guest stateroom with a DVD players.

FRESH WATER SYSTEM

The quality of fresh water at remote island outposts can vary considerably, depending on the island and time of year. Please monitor the quality of the island water so to avoid refilling with brackish or silty water.

Orca Belle has the factory installed water tank, 175 gallons. However, we recommend that you purchase separate water for drinking water

Orca Belle will be full of water for your charter. There is a water tank gauge near the floor of the Pilothouse - starboard side.
To fill Orca Belle with water, use the filler port on the port side on the swim platform. A water hose is above the port side tank in the stern of the engine room.
Careful not to put water into the diesel tanks.

ELECTRIC WATER HEATER

The electric water heater runs off the 110-volt system. It should be used only on shore power or with the generator operation. The circuit breaker is on the 110-volt panel. **EXTREMELY IMPORTANT: Do not use the electric water heater if the water tanks are very low or if they run dry. The electric element may burn up if the tank has no water.**

SANITATION SYSTEM

Orca Belle has two electronic heads. The water supply for the toilets is fresh water. There is one holding tank which holds approximately 70 gallons. The only water going into the holding tank is toilet water. All other water sources are pumped or gravity feed overboard. Add chemical as needed to the holding tank through one of the toilets.
It is imperative that every member of the crew be informed on the proper use of a marine head. The valves, openings, and pumps are small and will clog easily. If a head gets clogged, it is your responsibility! Adults should closely oversee the use of the toilets by small children so you can see what is being flushed. Note: Never put in paper towels, napkins, sanitary products, household T.P., or food into marine heads. Use only marine T.P. provided by AYC.
A clogged toilet can be very expensive to repair, leave a huge mess, and potentially ruin a vacation.

HEAD OPERATION

To operate one of the electric toilets, make sure the breaker is on at the 12-volt panel.
Depress button: water should appear in the bowl within 1 to 4 seconds. Use the toilet.
Hold button in long enough to flush bowl and evacuate waste. (Approximately 3 to 8 seconds), then fill the toilet with a little water for the next use. Keep the lid down on the toilet.

HOLDING TANK

The holding tank is located under the floor at the base of the bed in the forward stateroom. It has a capacity of 70 gallons.

IMPORTANT: You must be mindful of the extent of your crew's use of the holding tank. Roughly 1 gallon per flush goes into the holding tank. Both toilets flush directly into the holding tank. The only wastewater going into the holding tank is the water from the toilets

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 catastrophic and a costly repair bill. A good rule of thumb is to pump out the holding tank every 2 days.

NOTE: There is a holding tank monitoring gauge near the floor of the Pilothouse - starboard side.

Pumping out the holding tank is done one of two ways.

#1 There is a deck pump-out on the starboard side, for use with marina pump out stations. Insert the pump-out nozzle into the waste opening. Hold nozzle firmly against the deck fitting to ensure a tight seal. Turn on pump and open valve located on handle. When pumping is finished, close lever on handle and turn off pump. Remove from deck fitting.
If there is a fresh water hose on the dock, rinse the tank by adding 2 minutes of water into tank. Then re-pump to leave the tank rinsed for the next charter. This also eliminates head odors.

#2 The contents of the holding tank can be pumped overboard with the macerator. **ONLY DO IN CANADA IN OPEN WATER**

MACERATOR (For pump out only in Canadian open water):

It is very important to understand the macerator operation. Brief the waste tank macerator operation with your AYC fleet captain prior to shoving off.

1. The macerator seacock is located under the forward stateroom floor and is open.
2. Turn on the macerator pump on 12-volt panel. There is a guard on that switch.
3. When the tank is empty, discontinue operations. The macerator tank level indicator lives a "pretty rough environment" The constant accuracy of the gauge is questionable. A good rule of thumb is to pump out or discharge, as noted, after three days of use by four souls.
4. NEVER run the macerator for lengthy periods or when holding tank is empty so to prevent pump burnout. Five minutes of pumping out with the macerator will usually empty the tank. The discharge for the macerator is on the starboard side, under the water line and just below the starboard side pilothouse door. When running in calm quiet conditions you will hear it chirping.

NOTE: Only turn on the Macerator switch if you intend to pump out waste in Canada – otherwise, leave it off.

DISCHARGING THE HOLDING TANK OVERBOARD IS NOT PERMITTED IN ANY U.S.A. WATERS. YOU ARE PERMITTED TO DISCHARGE OVERBOARD IN CANADIAN WATERS, BUT NOT IN HARBORS OR MARINAS IN CANADA.

WINDLASS AND DAVIT

The anchor windlass and davit motors use a large amount of electrical power. It is always good to have main engines running or 50 amp shore power or generator when operating the windlass or davit. When the dinghy davit is used at anchor, use generator power or engine power. The ships batteries are not enough power for the windlass or the davit. The breaker for the windlass and davit is in the electrical panel bottom left. Keep the main power to the anchor windlass and davit off when not in use. These breakers will trip often. Simply reset and continue.

ANCHORING AND USING THE WINDLASS

1. Turn on the windlass breaker.
2. Always use proper anchoring procedures when anchoring.
3. Bring boat to complete stop before setting anchor.
4. Pay out enough scope before setting anchor. We recommend a 5 to 1 scope in NORMAL conditions, more if windy. Orca Belle has 150' of anchor chain followed by 150' of line.
   NOTE: AYC uses a standard code when marking anchor chains and line.
   a. White mark, 25'
   b. Blue mark, 50'
   c. Green mark, 100'
   d. Blue mark, 150'
   e. Yellow mark, 200'
   f. Red mark, 300'
5. Monitor vessel's position periodically while setting anchor to see that anchor remains solid. This is important if it becomes windy or if there is a current.
6. Always start main engines before you begin to weigh anchor.
7. Care should be taken that the anchor does not swing into bow and that the shank is guided over pulpit rollers.
8. When finished with windlass, turn off breaker at panel.
   ****NOTE**: **When recovering MORE THAN 150' of chain, ALWAYS HAVE SOMEONE AT THE RODE LOCKER (V-BERTH) to push the chain pile over so it will not jam the winch.**
9. There is a fresh water pump water faucet at the windlass. Wash down the anchor and all chain before storing into the anchor locker. If you do not, then it will really smell in the staterooms. You may need to run fresh water over the chain in the chain locker. If so, then use the water hose provided. The chain locker gravity drains the water.

DAVIT SYSTEM

1. Remove the cushion and metal tubing next to the base of the crane otherwise the crane will not be able to swing the dingy to starboard.
2. Make sure dinghy bridle is securely fastened to dingy. **Make certain that the drain plug in the dinghy is in tight and closed.** Remove tie downs for the dinghy
3. Operate davit with the remote. BE SURE to check the cable to make sure that it is feeding from the bottom of the drum, that it is not frayed, and that it is in the groove on the roller in the nose.
4. IMPORTANT: It is best to use two people to lower dinghy, one person on fly-bridge and one ready to move along starboard side decks to guide dinghy safely past salon windows into the water. There are "water ski type" life jackets under the flybridge seats.
5. IMPORTANT: Before using the Davit, turn on the Generator, or better, both engines and the Generator. It requires much more power than the batteries only can provide.
6. Be sure to have a line on the dinghy. Life jackets for the operators are a good idea.
7. Detach davits from tie down and attach to lifting harness of dinghy.
8. Using the remote control, lift the dinghy clear of the deck and high enough to clear the railing. Remember to lift straight up, do not pull sideways. **It swings really fast**. Keep it from swinging by holding the line on the davit.
9. Using a line attached to the bow or stern of the tender, swing the tender to the launching position. Pulling the tender into position will automatically swing the davit around. Do not use the davit to swing the load. It is easier to use the load to swing the davit.
10. When the tender is in the launching position, stabilize it, then use the remote to control to lower it into the water.
11. When the winch is in operation, you may hear a loud "thump". This is the cable ending one layer on the drum and rolling off itself to start a new layer.
12. Secure the tender to the yacht then have someone board the dinghy and release the hook to the davit. Be sure to always keep the tension on the cable. Lifting the weight can allow the cable to go slack on the winch drum.
13. Use remote control to reel in the cable.
14. Swing the davit back toward its stowed position and reattach it to its tie down.
15. Put the metal tubing and cushion back into place.
16. Unplug the remote control and replace the plug cover.
17. Turn power to the system off until ready to use again.

DINGHY USE

The dinghy key is in the cabinet starboard side forward of the electrical panel, starboard side.

1. Turn on the battery switch on the helm. Turn battery switch off when leaving the dinghy.
2. The outboard for the dinghy is fuel injected and typically will not require a priming. It is a four cycle engine. The fuel should be ethanol free and the fuel tank is built into the dinghy. Upon adding fuel into the tank always add some fuel stabilizer. Make sure it is in neutral when starting. The dinghy fuel tank is 7 gallons.
3. The dinghy has a depth finder and a GPS.
4. Make sure the plug is in the transom of the dingy before the dingy is in the water.

HEATING AND COOLING SYSTEMS

There are two types of heating/cooling systems on Orca Belle.

DIESEL HEATER

The heater is a diesel fired heater. It requires little electricity so it can be used without shore power or the generator. The heater main switch is in the salon on the starboard side at the stairs going to the pilothouse. Select the temperature you desire on the wall thermostat. Upon start-up, the heater will take a few moments to develop heat. NOTE: This system will not provide cooling, just heat.

To shut down: turn off at the heater main switch (as described above). Allow a few minutes for the heater to completely shut down.

REVERSE CYCLE HVAC UNITS

There are four HVAC units for air conditioning or heat on Orca Belle. These can only be used on shore power or with the generator running because they draw a significant amount of AC power. The units are located in the salon next to the refrigerator, in the pilothouse by the helm, and one in each stateroom. Each unit will deliver heat or air conditioning. Each of these units are a stand-alone compressor, evaporator, condenser and blower fan for air conditioning or heat. They are very much like a residential heat pump unit. The heat is provided by the heat from the compressor. The air conditioning is provided by the compressor, et al, and it uses Freon or just like a residential unit.

To operate: First turn on the AC Pump on the breaker. The AC pump must be turned on. This is extremely important. Failure to do so will damage the system and is very expensive to repair. Confirm that the AC Pump is operating by observing the circulating cooling sea water discharging from the port and starboard sides.

Then turn on the unit you desire at the unit and its associated breaker switch. Select the temperature you desire by pushing the red button for heat or the blue button for air conditioning.

To turn off: First turn off each unit at the unit and then on its breaker. Then also turn off the breakers for the two stateroom units. Then please allow about 10 minutes for cool down before turning off the AC Pump.

THE AC PUMP MUST BE ON FOR OPERATIONS FOR HEAT OR AIR CONDITIONING. FAILURE TO DO SO MAY DAMAGE THE UNIT.

MISCELLANEOUS

WASHER/DRYER

The washer and dryer are “typical residential units” and very easy to use and will allow you to wash and dry on board and not have to use shore facilities. Instructions for operation of the washer and dryer are in the “Operations Manual”. Use the liquid laundry detergent provided which is under the master bath sink cabinet. There is a light above the washer for convenience. When one opens the lid of the washing machine, lift the lid UP to the Velcro patch and that will hold the lid UP so you can maneuver clothes in and out of the tub.

Check to be sure the Washer breaker and the Dryer breaker are in the on position. Best to run either the washer or the dryer one at a time.

Before you turn the on the washing machine, check the water level gauge on the helm. Be sure there is plenty of water in the tanks.

Please clean the filter that is in the back of the dryer drum on the right for lint. Pull it out with 2 fingers, clean and then replace it in the back of the drum.

GENERAL VESSEL OPERATON

Always operate the vessel from the helm station that provides enough visibility given your course, speed and sea conditions. It is best to center the wheel (gauge on lower helm) and use only the engines to maneuver the boat backwards or at very low speeds. Make certain throttles and engines are at idle whenever you shift in or out of gears. Failure to do so can result in transmission damage.

When planning a day’s passage, it is good to have an alternative plan in the event of inclement weather, crew preference, etc.

CAUTION: When at the helm, and cruising, it is easy to forget to look up often from the GPS screen. As a result, you may run into logs, driftwood, kelp, or shrimp and crab traps. Ask your crew to help provide lookout while cruising. Hiring a diver to pull kelp off your prop, or assessing damage because you hit a log or have a crab trap line wrapped around the driveshaft is not vacation time! A haul-out plus damages, is not fun.

It is a good idea to refuel before the tanks reach 1/4 full. One reason is so that you are not searching for fuel with dangerously low tanks. Another reason is to prevent any sediment that may be in the fuel tanks from entering fuel lines and prematurely clogging the fuel filters. Fuel capacity is 600 US gallons. Do not run out of fuel with a diesel engine.

DOCKING

Prior to docking, rock trim tab switches to the 'bow up' position (8 to 10 seconds) to make slow-speed backing and turning easier.
While moving slowly to the dock or mooring location, center the WHEEL (e.g. rudders straight) and use only the GEARSHIFTS (mostly) and THROTTLES to maneuver the boat.
When using the bow thruster, only use it in quick 2 second bursts, for a maximum of 2 minutes, in order to not overheat the motor.

SAFETY AND EMERGENCIES

Safety and emergency equipment and their locations are listed on the inventory sheet located in the gray binder on board.

Flashlights are in abundant aboard Orca Belle. The engine room flashlight is at the stern of the boat, under the stairway.

FIRE FIGHTING
Orca Belle has seven fire extinguishers:

- In the storage area under the galley
- In the cockpit, starboard side
- In the salon, starboard side, aft
- In the pilothouse, near the floor to the right of the captain's chair
- In the flybridge, near the floor to the left of the captain's chair
- In the stairway closet going down to the staterooms.
- In the master stateroom, next to the door

THRU-HULL FITING GIVES OUT

- Use the wood bungs or plugs (stored in the under galley storage area) to temporarily plug the leak
- Have all passengers put on life jackets
- Call the Coast Guard, then contact AYC for instructions

Orca Belle has several smoke/CO2 detector combo units. One in the engine room, one in the salon, and 3 in the living quarters. These all have long life batteries so they should not fail on your trip. But if any of these indicate end of life, please contact AYC as soon as possible.

CHECK IN

Think of this as preparing the boat for the next skipper, which you are! Think of this as your home, and our home!

1. Leave yourself one to two hours to unload and clean up Orca Belle.
2. There is a vacuum sweeper in the stairway closet. Vacuum all carpets.
3. One of the most important rooms to clean well are the bathrooms. Please tidy up. Do not leave a dirty bathroom.
4. Please cover both helms to keep sunlight off the dashboard, instrumentation and compasses.
5. Make certain every utensil, pans, china, plates, cups, etc. are clean and put away in the proper locations.
6. Covers for the flybridge seats and the flybridge instrument are under the seat cushions. Please cover the instrumentation, even during your trip when at anchor, or in the marina to protect from hot sunshine. Please leave everything covered when you leave from your vacation, and then close the blinds.
7. Remove your garbage, stack all linens and laundry on the beds, remove all your personal items, foods and alcohol.

THANK YOU

WE TRUST THAT YOU HAD A WONDERFUL TRIP!