



Misty Blue Yonder Through-hull locations

Fore to aft Thru-hulls (all normally OPEN)

1. forward holding tank discharge; bow thruster
2. Head raw water intake, head discharge, sink drain
3. Transducers for depthsounder and knotmeter
4. Galley sink drain, Salt water intake (foot pump)
5. Head raw water intake, head discharge, sink drain
6. Raw water
7. Aft holding tank discharge

Locations

Sail locker, starboard side; thruster motor in center.

Forward head under sink

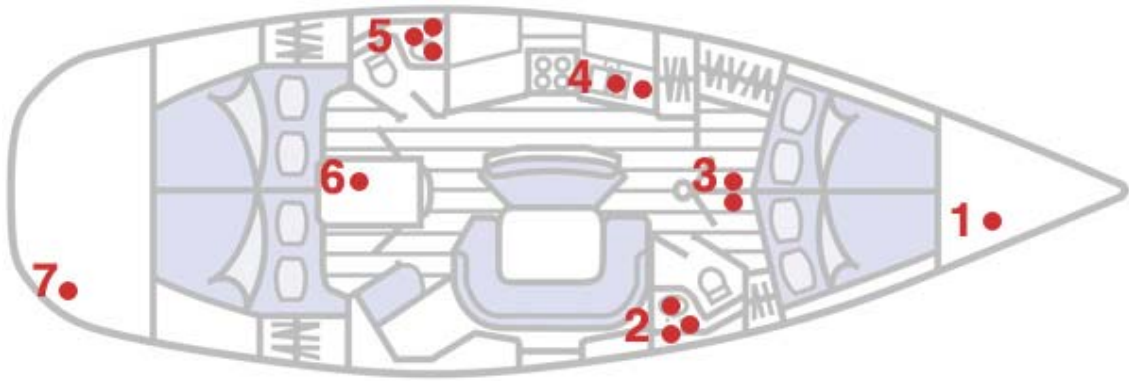
Forward starboard cabin, under aft floorboards, centerline

Galley, port side, under sink

Aft head, under sink

Engine compartment, port side, fwd; plus engine shaft

Starboard cockpit helmsman seat



Owner's Notes
Misty Blue Yonder
Jeanneau 45.2 (46' 6")

Dear Friends,

Welcome aboard *Misty Blue Yonder*!

As owners of charter boats for nearly 30 years, *Misty Blue Yonder* is our fifth, each one in charter with San Juan Sailing. We've watched designs come and go, and frankly, we think the Jeanneau 45 is about the finest, classiest design we've ever seen. And the sailing is unsurpassed.

She recently circumnavigated Vancouver Island in a wide variety of weather conditions, and we're even more impressed! She is quite stiff with her 6.7" draft. She moves easily in light winds, and sails well without reefs in breezes up to 25 knots, at 15 degrees heel, at 7-9 knots. Our maximum speed on the shakedown cruise was 9.8 knots.

Under power, she backs straight, with only the slightest bit of walk to port. And if you ever get in a tight situation, we've added a bow thruster for added confidence.

Our "just installed" teak companionway doors swing easily out of the way, and the "tent flap" keeps things warm and cozy down below.

We've made many wonderful cruising memories aboard during the last decades in the San Juan Islands on our past boats...our hope is that you enjoy *Misty Blue Yonder* as much as we do.

If you can think of anything that would make her more enjoyable for you, please let us know. We've tried to make her like new.

We wish you fair winds and wonderful memories.

Sincerely,

The Sailors Inc Partners

Robert and Wanda Bartlett, Dennis and Darlene Elenbaas, John and Barbara Godersky,
Roger and Marlene Van Dyken (all partners in *Misty Blue Yonder*)

PS *Misty Blue Yonder* is named for the Air Force's famed intrepid *Misty* pilots from the Viet Nam War. The "Blue Yonder" comes from the Air Force song: "Off we go into the wild blue yonder..."

Nuances

These are “unique” things that may differ from other boats

- 1 – **Autopilot:** avoid putting anything metal—especially magnetic—in the starboard aft cabin--throws off the fluxgate compass in hanging locker and makes the autopilot crazy.
- 2 - **Batteries:** don't touch anything. Both banks charge automatically.
- 3 – **Fenders:** stow in sail locker fwd. Retrieval easier if you droop lines over top rung.
- 4 - **Fender Step:** the blue fender step, stowed in the sail locker, makes docking easier. Just clip carabiners to the shrouds, let them drop to the base by the chain plate, and slip the fender step over the side. With mid-ship dock line in one hand, and shroud in the other, it makes docking safer and easier.
- 5 - **Galley:** 2 water tanks, 170 gallons; valves beside port end of aft settee. Aux. foot pump salt/fresh water.
- 6 – **VHF:** turn on nav station VHF before activating cockpit RAM mike.
- 7 – **Max Prop:** After killing the engine with the red button, slip into reverse for a second or two to stop counter-rotation. Then back to neutral so you don't accidentally start in reverse. Red button at base of handle is “clutch” to disengage transmission. Pulls to port under power at cruising speed.
- 8 – **Fuel:** 53 gallons. Fill only to “F” on gauge. If totally topped off, tank can distort and diesel can seep out of the tank and into the bilge.
- 9 - **Electric head** – the main head is electric and flushes like a home toilet, using fresh water. Touch the top button for “liquid flush” and bottom button for larger “solids flush”. No toilet paper or feminine articles please!
- 10 – **Holding tanks:** Red light “full” warning in each head. Pumpout at dock or in Canadian waters, activate overboard macerators with timer switches at nav station. Turn each timer to the yellow dot to empty (see photo under #3 Batteries, below).
- 11 – **Electrical Panel:** for your convenience, turn on all breakers with green dots for normal operation. Yellow dot breakers are for use as needed. Please never activate red dot breakers. Leave “double green dot” breakers on always.
- 12 – **Refrigeration:** 12V thermostat in refrigerator should point aft for ideal temp--cold enough for freezer compartment. Pointed down will freeze lettuce in fridge.
- 13 – **Bow thruster** – assure breaker on, depress red button and hold joystick to starboard for 3 seconds. Beep says it's “on”. Turns off automatically in about 30 minutes (series of beeps). Note bow thruster pivots stern in opposite direction!
- 14 – **Galley silverware drawer:** push the button in before sailing. Otherwise it can come flying out on a port tack!
- 15 - **Draft:** 6' 7"!!!

Basic Specifications:

LOA: 46' 5"	Displacement: 20,750	Fuel: 53 gallons
LWL: 38' 5"	Ballast: 6,600	Water: 2 x 85 (170) gallons
Beam: 14' 8"	Draft: 6' 7"	Holding: 2 x 40 (80) gallons
Year built: 1995		Heads: 2 Showers: 2
Years renovated: 2006, 2009, 2011		
Sails: Fully battened main with 2 reefs, lazy jacks; 130% roller furling jib; cruising spinnaker with sock.		
Engine: Yanmar 65hp turbo w/ feathering MaxProp		
Staterooms: 4 doubles, plus convertible dinette		

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Handy cockpit binocular storage



Barometer staying high!

1. Anchors

Main anchor – 66# oversized Bruce anchor forward, mounted on the bow, with 250' 3/8" chain. Chain is painted yellow every 50 feet. One yellow section at 50', two long 5' sections at 100', three at 150' and so on. Paint is augmented with thin yellow line woven into links.

Please secure the 10' anchor snubber to the anchor chain at all times, as safety when underway and to eliminate chain tension on the windlass when deployed. In both cases, tie off to cleat on windlass.

Secondary – 44# Bruce anchor stowed in the starboard cockpit locker with 30' 3/8" chain and 130' rode in plastic box.

Electric Lofrans Tigres electric windlass with foot controls. Windlass circuit breaker under the bottom companionway step.

To Deploy Anchor:

- 1 – Check tide tables to determine current water level and any drop while at anchor.
- 2 – Add any projected tidal drop to “comfortable depth” minimum (suggest 10'-15' minimum depth plus tidal drop).
- 3 – Listen to weather report (usually WX 4).
- 4 – Select spot for boat after checking boats already anchored.
- 5 – Pick spot 2-3 boat lengths upwind (depending on anchoring depth) as proposed anchor location. Generally use 4:1 scope, bow to bottom. To depthsounder reading add 4' for freeboard and 1' for transducer location below waterline. (So, if 20' reading on depthsounder, add 5'. Thus, 25' x 4 = 100' rode.)
- 6 – Check chartplotter for nearby depths in case of wind shift...or motor around watching depthsounder.
- 7 – Stop over proposed anchor location.
- 8 – Assure windlass circuit breaker activated (below bottom companionway step). Foredeck crew assumes command. [**Please:** To avoid anchor hitting the hull, it is critical to push anchor forward with the shank level before carefully raising shank to lower anchor. The same is true for nesting the anchor. Otherwise you will anchor the flukes in the fiberglass of the bow.] Carefully push out anchor and slowly place in hanging position (no swing!). Push foot button to lower (or better yet, ease wildcat brake with handle). Let out chain to depthsounder depth so anchor is near the bottom.
- 9 - Signal helmsman to engage reverse, idle speed while deploying rode to desired scope.
- 10 – Allow anchor to set and stop boat while it continues in reverse, idle speed. Watch flotsam beside boat and trees on shore to determine if holding. Continue at idle speed, reverse gear, for one minute. If holding, increase RPM to 1,000 (1,500 if storm is anticipated.) Check movement shoreside, not the significant prop current going by the chain).
- 11 - Set snubber on windlass cleat. Ease windlass so it is not tensioned.
- 12 - In storm conditions (or storm forecast), increase scope if adequate room to leeward.
- 13 – Can deploy secondary anchor for additional holding power if storm is anticipated.
- 14 – If in small cove, you may wish to deploy line ashore. 600' reel in starboard lazarette. Open transom doors; use mop handle as axle through reel; set mop handle on helm seats.

Deploy line with dinghy while spool unwinds. If sufficient length, bring line around secure shore object and back to boat for ease of departure.

To retrieve:

1 – Start engine.

2 – Depress retrieval foot switch. In wind, please do **not** use the windlass to tow the boat to the anchor.

3 - Retrieve in about 20 second intervals, stop to disperse chain “mountain” with mop handle (stowed on deck). If boat drifts over anchor, please avoid dragging chain over hull!

4 – As length of rode remaining approaches water depth, listen for windlass to labor...break out anchor with engine, not windlass. Thank you.

5 - To nest the anchor without chipping the hull, make sure anchor is not swinging, then use windlass to bring end of anchor shank up and over bow roller...as it does, release switch, and bring the shank horizontal as soon as possible. Note: if anchor upside down, it has swivel so you can release it and turn it with mop.

6 - After nesting anchor, secure to windlass cleat with snubber and slack chain on windlass.

7 – If chain or anchor is muddy, we attach a dock line to a bucket and wash down until exit water is clear.

2. Barbecue

The large propane fired Magma cylindrical 9” x 12” stainless steel BBQ is mounted on



the port stern rail. A hose in the port propane locker permanently connects to the large

auxiliary propane tank. Please find the BBQ cleaning brush attached with a SS lanyard for convenient cleaning when the BBQ cools. Thank you!

The little blue BBQ regulator sometimes “freezes”, extinguishing the flame. We warm it with our hands for a minute or two and it works fine. Note the spare regulator in the propane well.

3. Batteries

The system is automatic, using a combiner. Please leave the switches alone during the cruise.

Battery switches are red “handles” under the bottom companionway step. Horizontal is “on”; vertical is “off”. Starboard switch is house bank, middle switch is emergency combiner in case the engine battery is down (designed not to occur because all house electrical loads are on the house bank); port switch is engine start/windlass.

Battery voltage displays are at the nav station:



Engine start battery: large red digital voltage readout at the fwd end of the nav station. Battery is located under the starboard settee, aft. (single Group 27, sealed)



House bank: The small round black Xantec Link-10 Amp meter in the nav station electrical panel displays green lights along the top. Four green lights, with last one blinking, three greens is acceptable; if only two lights show, they will turn yellow. This means you have emptied your electrical fuel tank and

it's time to recharge. Please start the engine or hook up to shorepower (with battery charger switch on 110V panel “on”). If only one light illuminates, it will turn red, indicating battery voltage is dangerously low and permanent battery damage will result.

Each time you press “SEL” you will get one of the four readings displayed below:



voltage amp draw *amp hours drawn down 27.5 54.7 hrs left at current draw
 *Note: **beyond “-200” causes damage to batteries**

Below the row of green lights are four different “indicators”. Note the location of the small round green light in each photo. From left to right you will see with sequential pressings:

- 1) house bank voltage
- 2) rate of amp hour charge or discharge
- 3) amp hours consumed (i.e. -50 means 50 amp hours consumed, 150 remaining)
- 4) minutes of battery life remaining at current rate of consumption. During charge, this will display “CCC”.

The house bank consists of 4 x Group 27 115 amp hour sealed deep cycle batteries located under the forward edge of the port aft cabin cushion. They total 460 amp hours, of which about 200 are “usable”. Below 200 amp hours (or below 12 volts at rest) permanently damages the batteries.

When the engine is running, both banks are charged by a high output 100 amp Balmar alternator with a Heart Interface Echocharge for the engine start battery and a Balmar MC-612 multi-step “smart regulator” for the house bank.



Under shorepower, both banks are charged by a Professional Mariner Protech 4 1220 Battery Charger located on the forward edge of the port cabin aft stowage, underneath the cushions.

Caution: please **exercise care if** children are playing near the battery switches. Turning them with the engine running could destroy the diodes on the alternator.

4. Berths and Bedding.

All four staterooms are quite similarly sized generous doubles; though the aft staterooms are a bit wider.

Aft staterooms: 5’ wide (narrowing to 4’ near stern) x 7’ long.

Forward staterooms: about 4 ½ feet wide (narrowing near the bow) x 7’ long

The salon table converts to a huge berth. Just ease the tensioning handle about ¼ turn on the pedestal while a couple people lower it. The settee backrest cushions fill in over the table to make the large berth.

We're pleased with the comfort of these cushions (main salon cushions new 2010).

We provide 8 pillows and four comforters, and four sets of sheets. If you will need more, please let us know a week before you arrive, and we'll gladly put them aboard.

5. Bilge Pumps

Emergency Hand Bilge Pump – This hand operated pump is located at the starboard helm station. The bilge pump handle is in the starboard helm lazarette, attached to the underside of the helmsman's seat.

Electric Bilge Pump – For normal operation, just leave it “off”. The automatic float switch activates the 12 volt pump in the bilge, located under the center bench seat, forward end. Note: in default, the float switch activates the bilge pump (located under the nav station). For manual override, flip the circuit breaker labeled “Bilge pump” to “on”.

Note: The engine features a dripless PYI shaft seal to promote a dry bilge.



6. Bimini (new 2008): The blue bimini flips forward to cover the cockpit area from rain and/or sun. It is secured with two straps at the forward corners, and is easily deployed or stowed. When stowing, please zip up the canvas sun shield cover. The photo shows the way the strap secures.

7. Bow Thruster: Before leaving or entering a marina, we activate the bow thruster. First make sure the circuit breaker on the nav station electrical panel is “on”. Second, at the starboard helm control, depress the red button while nudging the joystick to starboard for 3 seconds. A beep tells you the thruster is “awake”. It's powerful, so watch your stern when leaving the dock...the bow thruster will pivot your stern into the dock.

8. Chart Plotter: The helm-mounted Raytheon 12” color chart plotter displays chart data as well as radar, log, or any of the above simultaneously. It will also overlay radar on the chart so that you can see another boat coming across your chart plotter display. For most operations, use the chart plotter alone. To operate:

At nav station, turn on “RADAR/CHRT”, “AUTOPILOT” and “ELECTRONICS”.

At helm unit, press “Power”

Press “OK” button.

Press the arrows up or down to zoom away or closer.

Note the display of “SOG” (Speed over ground), and “Heading” at the top of the display.

To activate radar, push the “page” button, then select the radar display. Once the radar is operating, you can revert to the chart plotter page. “Radar Overlay” is normally on, showing radar images in purple.

It’s normal for the autopilot and the chartplotter COG (course over ground) displays to disagree by 8-10 degrees. (It doesn’t matter since it is the COG that’s relevant and the variance doesn’t affect autopilot performance.) They will also vary from the compass at the port helm, which we no longer calibrate for deviation due to redundancy.



Note: if the autopilot either veers significantly when engaged, or beeps continually, remove all metal and magnetic items from the starboard aft cabin. The autopilot fluxgate compass is located in that hanging locker. Even batteries will affect it adversely.

9. Cockpit Cushions: We’re very pleased with the 6 dark blue foldable “Sport a Seat” canvas cushions aboard. You can either lay them flat like a conventional cockpit cushion, or flip the back up for truly comfortable back support at the helm, in the cockpit, or even for sunning on the foredeck. To engage the “ratchet” positioning of the back, lay the cushion flat, then left back to the desired position. To return to flat, pull it closer than 90 degrees, then release. Please stow the cushions in a stateroom or tuck them under the dodger for dew/rain at night. Thank you for your care!

10. Depthsounder

Misty Blue Yonder is equipped with a Raymarine ST60 depthsounder with cockpit display at the starboard helm.

It is calibrated in feet, set to read from the transducer, which is about one foot below water level. If you assume the reading is from the top of the water you will have a very modest one foot safety margin. We get very nervous in anything less than 30 feet cruising, 15 feet in an anchorage, given that we draw 6'7"!! The two biggest hazards to boats in our waters are rocks and docks.

Activate the depthsounder through the "Autopilot" circuit breaker.

Please note that depthsounders frequently give false readings in deep water. In the San Juans, 400'-600' are common and the transducer may give false readings as its sensitivity increases in an effort to obtain some reading, often from changes in water density, salinity, or underwater debris.

Due to those frequent changes in depth readings (especially in very deep water), we suggest that you **not** set the depth alarm, but always know your position on the chart. Please note: You **cannot** rely on the depthsounder alone to avoid rocks! It is possible to go from 300' to on the rocks in less than 30 seconds under sail in some areas! The answer is simple: always have your Navigation and Safety Officer track your position on the chart where rocks are clearly marked. Double-check with the chartplotter zoomed in. Thank you!

The transducer is located under starboard forward stateroom floorboard.

11. Dinghy and Outboard

10.5' AquaDutch (new 2008) with inflatable floor and keel. We chose it because it is light (we sail faster!), tracks well, has a large capacity and is reinforced in all the right places.

The dinghy is so light that in strong winds it can "sail" like a kite and even flip. When sailing in anything above 15 knots, attach the painter to the leeward stern cleat. This allows the sailboat to break the waves, block the wind and lower the profile of the dinghy, reducing its susceptibility to "sail". Alternatively, in winds above 30 knots you can lash it to the foredeck before getting underway.

Under power with little wind, we tow it from the port side, opposite the starboard engine exhaust (thank you!).

In all cases, we tow about 4-5 feet off the stern (tied off twice), so we cannot run over the painter in reverse!

If you use the cabin heat, check that the painter is not in front of the heater exhaust. It melts. Thank you!

The barnacle-encrusted rocks are hard on dinghy bottoms. We find it works best, as we approach shore, to put crew weight aft, step gingerly off the bow, then carry—not drag—

the dinghy well up on shore. Just in case, there's a repair kit in the starboard cockpit locker.

Thank you for avoiding sharp objects on the inflatable floor.

The dinghy depends on high inflation to keep the floor in place. If not inflated to adequate pressure, bouncing waves may cause the floor athwartship board to "pop up". The solution is to push the board back in place with your foot, then properly inflate the floor, the two side compartments and the bow section.

The dinghy is equipped with safety overpressure relief valves. If in the sun or out of the water, the floor may overpressurize and "poof!", suddenly you have a deflated floor. If so, just inflate again with the foot pump.

The 2hp Honda 4 cycle outboard uses straight gas. Please stow it on the sailboat's stern rail at night and when towing the dinghy (several dinghies have overturned). If you submerge the outboard in salt water, you will be asked to pay for it.

We provide spare dinghy gas, secured in the dinghy in the plastic compartment. For safety, please never store fuel in a sailboat compartment. SJS will refill the spare tank at no charge upon your return. It is courteous to bring back the outboard topped off from the spare tank.

Outboard procedures:

- a – Untie safety line, if padlocked unlock using "4-3-0" lined up, loosen brackets and secure on dinghy transom. Tie safety line.
 - b – Open gas line (starboard aft)
 - c – Open fuel vent (top of cap)
 - d – Turn throttle on "start" position
 - e – Pull choke all the way out
 - f – Pull on starter rope
 - g – Immediately after start, gradually reduce choke until fully depressed
 - h – Note: there is no reverse. The transmission automatically engages as the throttle increases. For reverse, pivot the outboard.
 - i – For safety, secure red coiled wrap around your wrist. If you fall overboard, the coiled wrap will automatically kill the outboard.
 - j - Release outboard pivot bracket as you near shallow water, lift shaft clear of any obstacles.
 - k – kill engine by depressing red button or pulling out red coiled wrap.
- Note: if outboard does not want to start, check fuel first, then be sure black bracket on red coil wrap is fitted properly under the red kill switch.

12. **Dodger**

New in 2011. Has hand grabs aft and on both sides for safety. Please minimize touching the "glass". If you get salt crystals from spray, please rinse off with galley fresh water.

If you or your guests use aerosol sunscreen, please apply well away from the dodger. Sunscreen will destroy the glass. (San Juan Sailing recently replaced two panels destroyed by sunscreen.)

13. Engine

Yanmar 4JH2-TE 65hp 4 cylinder turbo-charged diesel (#14876), with PYI dripless shaft seal on a 30mm shaft and 3 blade feathering Max-prop.

Oil dipstick access is via a panel in the starboard aft cabin. The engine is not known to use oil; nevertheless, spare oil lies just below the dipstick in the engine compartment.

Starting procedures:

1. At the starboard helm, if the engine is cold, depress the red button (the clutch) at the base of the throttle as you push the throttle forward slightly for starting.
Note: neutral is straight up on the single lever throttle/gear shift.
2. Turn the key to start.
3. Listen/look for water coming from aft end of starboard hull.
4. Warm engine at 1100 rpm for no more than 2 minutes. (Most engines are idled too long, resulting in carbon buildup.) If in a marina, start the engine just before loosing lines. If starting after extended sailing, please allow one minute at 1100 rpm, another minute or so in gear at 1500.
5. Please pause 2 seconds after the “click” into gear before accelerating, to protect the transmission. And, of course, always pause 2 seconds when switching from forward to reverse.

Running (flat water):

- 1500 rpm yields “marina speed” of about 4 knots.
- 2000 rpm is “economy” cruise, about 6 knots, approx .7 gph, range: 450 NM
- 2300 rpm is “comfortable” cruise, about 6.8 knots, approx .85 gph, range: 425NM
- 2500 rpm is “fast” cruise, about 7.5 knots, approx 1 gph, range: 400 NM
- 2800 rpm is emergency max cruise.

Notes: cabin heater use will affect fuel consumption. Also note that the boat wants to head to port when at cruising speed under power.

Shutdown:

1. Please allow a 2 minute cool down after running at cruising speed, mainly if you shut down after the wind comes up (not necessary to cool down after entering marina or anchoring, since the lower rpm will have cooled engine.)
2. Push the red button on the engine panel until the engine stops. This engages the electric shutoff solenoid. There is no separate stop lever.
3. Turn the key “off” only after the engine has stopped. **Never** touch the key while the engine is running.
4. After turning off engine to sail, slip into reverse momentarily to stop prop counter-rotation and feather the Max-prop. Then return to neutral so that you don’t accidentally start the engine in reverse.

Note: the gearshift is sensitive. It need to be exactly vertical or it will slip into either forward or reverse.

Engine overheat:

If the alarm sounds, or steam comes out the exhaust, the engine has overheated. (The alarm will also sound in case of low oil pressure or failure to charge batteries.) Check for the amount of water coming out the exhaust. If it is little or none, the most likely cause is eelgrass plugging the raw water strainer, located at the forward starboard end of the engine. Access by sliding the two latches below the bottom companionway steps and lifting the two bottom steps slightly up and then away. The strainer is just above the water line, so you should be able to clear it with the seacock left open. If there is still no water coming out the exhaust, put Vaseline or a similar substance on the lip of the raw water strainer to assure a better seal.

As an added precaution, we have a grate below the hull to deter eel-grass and other debris. As a result, we've not yet had a clogged strainer.

(Note: we replace raw water impellers annually as part of our preventive maintenance program.)

If the engine overheats with adequate water flow out the exhaust, check the coolant level in the engine (plastic expansion tank accessed port aft cabin). Add water if necessary (spare coolant under aft settee cushion).

14. Fuel

Misty Blue Yonder's 53 gallon (200 liter) fuel tank is located under the starboard stateroom cushion.

The gauge is at the starboard helm. The key must be on. Please fill the tank only until it reads "F" on the fuel gauge. If the tank is topped off to the fill hose, the tank will distort and some diesel can seep out of the tank and into the bilge.

Fuel fill is starboard, aft.

Fueling: In the cockpit locker we have rubber gloves and fuel absorbent pads. Before fueling, you may wish to build a fuel absorbent dam fore and aft in case of overfill (reaching for the pads after the spill is too late.).

Please don't fill too fast, track how many gallons are in, keep your ear to the fill, monitor the gauge occasionally while filling.

15. Heads and Holding Tanks

The most commonly used aft head is electric (new 2009). It uses fresh water to reduce odors. The forward toilet is a Jabsco standard manual. On this, please always turn the handle to "closed" (dry bowl) as a precaution against sinking the boat.

The rule of the sea is: The person who plugs the head, unplugs the head.

Experienced sailor rule: To avoid the "rule of the sea" above, nothing goes down the toilet that hasn't been eaten. Please place feminine articles and toilet paper in the waste basket, plastic bag, or zip lock...makes for a much more pleasant cruise!

Operation of electric toilet aft:

For liquid effluent, push upper button.

For solid effluent, push lower button.

Operation of manual Jabsco toilet forward:

For liquid effluent:

- 1 - use the toilet
- 2 – pump 4 or 5 times in “dry bowl” to empty.
- 3 - flip switch to “flush” position.
- 4 – pump 3 or 4 times to bring in and flush out “fresh” salt water.
- 5 – flip switch to “dry bowl” position.
- 6 – pump until bowl is empty

For solid effluent:

- 1 – flip switch to “flush” position.
- 2 – pump 4-5 times to bring in supply of “fresh” salt water.
- 3 - use the toilet.
- 4 – pump 10-12 times to move solids into holding tank.
- 5 – flip switch to “dry bowl”
- 6 – pump until bowl is empty.

Y valves: each head has an exposed Y valve on the wall near the toilet. The arrow on the short end of the handle points to either “overboard” or “tank”. USCG regulations require effluent go into holding tanks in US waters, regardless of water depth and tidal flushing action. In Canada, though the ecology is the same, holding tanks are only required to be used in shallow “no discharge” zones, normally anchoring bays and marinas. Exercise your judgment. We advise that in shallow bays and marinas, where solid effluent has an adverse affect, use shoreside facilities or the holding tank for solids. The state director of salt water quality informed us that liquid effluent from boaters has no adverse affect on water quality; nevertheless, its discharge is not permitted by USCG regulations. Yet, this information may be helpful in emergency situations, knowing it is preferable to switch the Y valve to overboard for liquid effluent than to have tanks overflow.

Holding Tanks:

Forward: 40 gallons, located at the bottom of the sail locker. Accessed by removing spinnaker from sail locker (for info only, normally no need to access).

Aft: 40 gallons, located under and between the two cockpit helms. Accessed by lifting the cockpit sole hatch between the wheels (for info only, normally no need to access).

A red light near each toilet illuminates when the holding tank is full. (Alternatively, you can (with difficulty) view the level on the plastic tank itself.)

Holding tanks can be emptied two ways:

a. Assure the “Macerator” circuit breaker is “on”. Turn the white timer switches at the navigation station (forward end), to the yellow dot. Each dot is placed so that the pump (a “glug-glug” diaphragm pump) will empty a full holding tank (normally about 15 minutes).



b. Alternatively, each tank has a deck fitting for use at a pumpout facility. Note: holding tanks seacocks remain open.

Don't use a holding tank when the red light is illuminated on the “tank” monitor in each head. Please do not overfill the holding tanks, or effluent will overflow through the vents, which yields foul odors, dirties the hull and, if solids clog the vent, prevents the holding tank from either filling or emptying. This shuts down the toilet.

In a worst case scenario, you can explode the holding tank!

Depending upon the number and type of flushes above, and the number of people aboard, the holding tank may be a day or two of usage.

Hint: you may find vinegar and vegetable oil on the forward head shelf. Every few days, we put about a cup of vinegar down the toilet, flush it, then follow it up with a couple tablespoons of vegetable oil to lubricate the gaskets. It can make an amazing difference in ease of operation.

Note: in event of failure, we have a spare toilet pump assembly in the port forward “spare parts” storage under the mattress of the port forward stateroom.

16. Heating System

The Webasto 90S diesel-fired thermostatically-controlled hydronic (circulating hot water) boiler system features forced air fan-driven radiators in each of the four staterooms, plus the main salon. Each room has its own “high”, “low” and “off” rocker switch for customized “per cabin” comfort. The heater draws from the main diesel fuel tank.

The heater warms the domestic hot water somewhat to take the edge off in the morning before the engine fires up.



Operation: To activate the heater, simply flip the chrome toggle switch next to the thermostat at the nav station to “on”. A green light indicates the heater is activated. Set the thermostat to the desired temperature. Because the circulating water must first be heated before the radiator fans are activated, it takes about 10 minutes before you feel heat.

Nav station heater control: thermostat, on/off, main salon fan control

Note: if the engine is running and the heater is “on”, the heated engine coolant will automatically heat the furnace blowers to reduce heater diesel consumption.

When it’s cool, we turn on the cabin heat to take the chill off in the morning, and sometimes in the evening. After “at temperature” we usually turn it off. We always turn the heater “off” at night, both to sleep cool and to avoid the clicking sound of its electric fuel pump.

Note: we have 2 electric space heaters on board (normally stowed in the port forward stateroom) for use when on shorepower.

17. **Inverter** – At the nav station, a portable 12v/110v inverter plugs into the cigarette lighter type 12v receptacle. It’s handy for charging cameras and cell phones. It does not have sufficient wattage to power a hair drier (excessive draw may burn the fuse in the cigarette receptacle wiring). A second inverter, located in the cabinet above the freezer, powers the television/VCR.

18. **Knotmeter**

There are two speed readouts: speed through the water (registered at starboard helm), and speed over ground (registered by the GPS on the chart plotter, which takes the effect of current into account).

The impeller is under starboard forward stateroom floorboard. If you catch eelgrass on the impeller, it will read 0.00, in which case you can try to clear it by traveling in reverse.

19. **Lifesling**

The Lifesling just outboard of the starboard steering station is rated best in person overboard recovery. Review the cartoons on the face of the bag for procedures. The lanyard is secured to the boat so that tossing the floating harness allows it to tow behind the boat like a ski tow rope. Circling the person overboard will draw the recovery line near them.

The low swim platform and easy walk through transom simplifies crew recovery (and dinghy use).

20. Radar

The Raymarine 2KW radar reads out in the color 12" chartplotter/radar display at the starboard helm in your choice of a separate display, side by side display, or radar overlay onto the chart plotter display. Instructions are under "Chartplotter" above.

We leave the radar on "standby" unless needed, because it has considerable power drain. Please do not navigate at night or in fog. If there is fog, stay at your mooring until it lifts. Safety of you, your crew, and the boat is paramount.

The radar is intended in case you are unpredictably enveloped in fog while underway.

21. Refrigeration (new 2010)

There is a large refrigeration compartment, plus a separate freezer compartment.

It operates on 12V batteries and there is adequate battery capacity to leave it on continuously. The ideal setting for most people on the clockwise dial is to point the dial straight aft. Anything more will freeze your lettuce.

22. Sails

General Sailing Comment: Overall, we think this is a great sailing boat, among the finest we've ever sailed. Scoots sprightly in a light breeze, stiffens nicely as winds build. Although the boat is equipped to sail in a wide variety of conditions, if a storm is forecast, we urge you to stay put. But if caught in a blow, we've tried to prepare her well for your safety. We find that the boat imparts a wonderful sense of confidence in higher winds, and remains well balanced with little weather helm. She sails best when kept under 20 degrees of heel.

All lines lead aft to the cockpit.

Mainsail: fully battened, loose footed, with lazy jacks, and two pre-rigged reef points. The clew reefing lines are led aft to the cockpit.

If not already secured to the mast, you may wish to slack the lazy jacks and lead them forward so the leech does not foul during hoist.

The main halyard is secured to the end of the boom to double as a boom lift.

We find it easiest to hoist the main with a crewmember hauling on the main halyard at the mast (portside), while someone else takes up the slack in the cockpit.

We usually get it about 3/4 hoisted doing this.

Then, we get nearly full hoist by having the crew at the mast pull the halyard straight out (like a bow-and-arrow) as the cockpit crew takes up the slack on the release stroke. A number of pumps like this normally brings it within a few inches of full hoist.

For final luff tensioning, we use the two-speed cabin-top winch.

Trailing tell-tales assist mainsail trim.

This boat sails best when carrying a touch of mainsail luff, and the tell tales flying straight.

With the multi-purchase solid vang, we set sail shape with the main sheet, secure it with the vang, and as we ease off the wind, we ease the traveler.

To flake the main, first tension the lazy jacks. We secure the lazy jacks to the mast mounted cleats.

After flaking and tying the mainsail to the boom, we secure the main halyard to the end of the boom for the night and move the lazy jacks to the mast, looping them under the gooseneck reef hooks and re-tensioning. At cruise end, we put on the boom cover.



Hint: if the lazy jacks slap the mast, we secure them tightly under the washers of the reefing horns, as shown in the photo (especially when sailing in a good breeze) or else move them outboard of the flaked sail luff. Either method moves them away from the mast and avoids mast slap. In some conditions, we put them outside the boom cover, which gets them away from the mast.

Reefing: Release the mainsheet and boom vang. Ease the main halyard while crew attaches the tack ring to the gooseneck hook. Tension the halyard to the desired reef point. Tension the single line clew reef. Re-tension the mainsheet. Re-tension the boom vang. Note: in stronger winds, we find it easiest to reef from the hove to position.



Genoa:

The primary winches for the 135% genoa (Profurl roller furling) are chrome two speed self-tailing Harken 53s.



The genoa fairleads are adjustable underway with the control lines in the cockpit...very handy to move the fairlead forward when sailing off the wind. We find the best fairlead position for close hauled is in line with the aft edge of the nearby deck hatch.

Cruising Spinnaker (new 2007):

If you are experienced with a cruising spinnaker, you are welcome to use this sail in light wind conditions. If you have not employed them previously, we respectfully ask that you not do so. Without experience, you will get in trouble quickly.

Stowed in the sail locker forward, the asymmetrical cruising spinnaker is designed for beam to broad reach sailing in breezes up to 15 knots true, 10 apparent. Attach the tack lanyard to the shackle just below the jib furling drum.

The sheets and turning blocks are stowed in the spinnaker turtle. To employ, hoist the sock using the green spinnaker halyard and raise the sock as illustrated in the photos below.



1 – Open turtle in sail locker



2 – Attach halyard



3 – Hoist sock



4 – Attach tack as shown



5 – Attach blocks/run sheet(s)



6 – Raise sock



7 – Continue sock raise



8 – Take up sheet slack



9 – Trim sheet, edge of luff curl

To jibe, we suggest lowering sock and running sheet to other side.

To douse, reverse the above sequence.

23. Shower

Both heads incorporate a shower. Extend the sink faucet and place into the shower holder—or just hold it and wet yourself down. Please activate the shower sump circuit breaker at the nav station before showering. After showering, hold the black sump pump switch in the head a few seconds until you hear the pump no longer under load. Thank you for drying the mirrors after use to prevent premature failure.

24. **Stereo.** We thoroughly enjoy good music. There are two sets of speakers aboard. For operating details, please see the Owners Manual in its own 3 ring binder in the ship's library.

a. AM/FM/CD/MP3/WMA: Pioneer brand, located at Nav station. The CD player is behind the front radio panel, accessed by a button in the upper right hand corner of the radio.

- b. Satellite stereo: The XM satellite stereo feeds into the Pioneer receiver. To activate satellite stereo, push the “source” button until XM satellite shows.
- c. IPOD: Ipod cable feeds into the Pioneer.
- d. Salon and cockpit stereo speakers: activate your choice of salon or cockpit speakers (or both) with push buttons behind the small door on the right as you sit at the nav station. Note there are four buttons. The inner two must always be depressed. Depressing the forward button activates the main salon speakers; the aft button activates cockpit speakers. Hint: if cabin speakers sound muffled, assure nothing is sitting on them (they are mounted horizontally) and that treble has not been inadvertently misadjusted.

25. Storage

The many storage areas are appealing factors of the Jeanneau 45. Here are the storage areas we found of greatest use:

Food:

- 1 – Given the large capacity of the refrigerator, we stow many optional refrigerated items in it.
- 2 – Salon center settee. Located opposite the galley counter, the under settee storage of the center island settee is large and convenient.
- 3 – Large standing cabinet forward, port. This huge custom designed locker has three slide out trays and is probably the single most convenient large storage area, and is used mainly for cutlery, pots and pans and other galley ware. Note the custom adjustable teak tray heeling stops. Please always employ them. It avoids damaging the door and trays when heeled to starboard.
- 4 - Under forward settee cushion. Big storage compartment under these cushions.
- 5 – Behind settee cushions. Some storage behind the starboard settee cushions, and some, though more cumbersome to access, under the starboard settee cushions.
- 6 – Above galley counter cabinets. We store quite a bit of food in the cabinets above the refrigerator and freezer.
- 7 – The center console has a top drawer with spices.
- 8 - Under forward stateroom cushions. Lots of stowage here and fairly easily accessed.

Clothes:

Each cabin has a hanging locker, a cabinet, and stowage compartments that we find more than adequate. Some also have drawers.

Tools:-

Under the aft settee cushion.

Emergency supplies (flares, horn, etc)

Under the nav seat in a white nylon mesh bag.

Fenders:

We store them in the sail locker forward. We droop the fender lines over the top rung of the sail locker ladder for easy retrieval.

Dock Lines:
Port lazarette.

Cooking utensils:

In the forward galley cabinet (above) and under the counter just forward of the stove in a slide out cabinet (Note the teak pull insert recessed in the door; please don't pull on the push/pull lock knob. Sometimes we find we forget to lock this cabinet before sailing, and it can slide dangerously out. Just push the button in.)

Trash:

There is a large plastic trash container under the galley sink, and small ones under the sinks in each head.

You can accumulate trash if you wish into a large trash bag (we compact it first, stepping on cans and containers) and stow it carefully in the cockpit sole "liferaft" storage area accessed between the two helms. Please note the handhold cutout as shown for lifting. This also gives access to the steering quadrants and cables, so please keep any trash bag well forward in the compartment.



26. Stove



The two burner gimbaled SS Hillerange propane stove (2003), with oven, must have the propane solenoid switch "on" to operate (located under the electrical panel at the nav station). Use a "firestick starter" to light the burner. (Note: you don't need a flame to ignite the burner, only a spark). Depress the stove knob, turn left 90 degrees and light. Turn further to the left to reduce flame (simmer).

Oven: 1 – Set knob to desired temperature. 2 – Open oven door. 3 – Depress red rod at the right edge of stove as you ignite the oven pilot light. Wait a few moments as the thermo couple heats, then release red rod. In a couple minutes the entire oven burner will ignite. We suggest that whenever you turn off the stove burner, you shut off the propane solenoid, which, for safety, shuts off the propane flow in the cockpit propane locker. We have two propane

tanks in the port aft cockpit propane well, vented to the outside for safety. Each tank normally lasts 6 weeks.

27. **TV/DVD**

The 22" Hi Definition flat screen television (new 2009) swings out from its stowed position on the aft bulkhead above the freezer. It includes a self-contained DVD player. TV reception is poor in the islands, so feel free to bring your favorite DVDs.

To operate, assure "12V outlets" breaker is on, that the small inverter in the cabinet above the freezer is on, and that the TV is plugged into it. We keep the remote control in the nav station.

Enjoy!

Oh, one thing...the multi-fold arms on the TV mount for customizing your viewing angle? Please assure the TV is secured to the velcro before sailing!

28. **VHF radio**

There is an ICOM VHF radio at the nav station, with a RAM mike at the starboard helm, facing to port. The RAM mike must be connected before turning on the nav station VHF. The RAM mike enables you to hear, tune, and transmit from the cockpit. In our opinion, this is a significant increase in safety because it makes it practical to monitor channel 16, which by law you must, and by seamanly courtesy you should. If you are the nearest vessel to an emergency, you may well be able to save a life or a boat. Our earlier boat, with our son and fiancé (now wife) aboard, was saved in a MAYDAY situation because a nearby boat monitored channel 16 and threw a line as our dear ones were drifting toward the rocks.

For your convenience, we have "tagged" three channels for you: 80 (San Juan Sailing's channel), 69 (a boat-to-boat communications channel), and 16 (the emergency and contact channel). Please remember to touch the "scan" button on top of the remote mike after each use so that you automatically monitor channel 16 while underway. (To "tag" a channel when it is displayed, hold down the "scan/tag" button until you hear a beep. To "untag", do the same until you hear two beeps.)

Use the "WX/CH" button to access the weather channels (Ch 4 is most common in the San Juans. Listen for "Northern Inland Waters") Expect small craft advisories on the Straits of Juan de Fuca to the south, and the same for the Straits of Georgia to the north on clear afternoons. Press "WX/CH" again to return to your normal channel.

29. **Water**

There are two water tanks—one under each forward stateroom, and both vent to the anchor well. They hold 170 gallons (660 liters) between them, or 85 gallons (330 liters) each. The manifold to switch tanks is located near the companionway, behind a small door at the port aft end of the aft settee. The door is labeled. There is no water level gauge, so we empty one tank at a time and estimate use.

The water pressure pump is under the nav station.

The foot pump at the galley produces either fresh or salt water; lever is under the sink. In the salt position (normal) it's handy for conserving water by rinsing dishes. Note that in the fresh water position it will leak continuously if the pressure pump is on...for fresh water it's designed to serve only as emergency backup if the pressure pump fails.

Hot water is produced by two methods:

- a. Engine: It takes about 30 minutes under solid load to heat the large hot water tank (under the port helm).
- b. Shorepower: If hooked up, turn on the “hot water” circuit breaker on the 110v panel above and to the right of the nav station.
(The Webasto cabin heat also makes warm but not hot water).

30. **Windlass**

The windlass circuit breaker is beneath the lowest companionway step. Please review the procedures under “Anchoring” above.

Enjoy!!

