**Owner's Notes**

# Escape!

Nautitech Open 40

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# 1. Nuances

1. **Salon Entry Door**: The sliding door has a secondary latch position about 4" from the closed position. Please hold the latch down when opening/closing the door to prevent the latch pin from dropping into the secondary position and slamming to a stop.

2. **Fenders**: we stow them in the forward storage lockers.

3. **Engine power/shift Levers**:
    - The electronic power control levels have a slight delay when shifted into gear. Please wait for transmission to engage before advancing the power control levers.
    - Place power levers in neutral, prior to selecting power lever control from one helm to the other.

4. **Max Prop**: After shutting down the engines, slip power/shift levers into reverse for a second to stop rotation, allow blades to feather, and then back to neutral.

5. **Heads and holding tanks**: Electric salt water toilets; after liquid use, push lower toggle: "drain" then "fill", then "drain" to refresh. For solids push "fill" before above. Holding tanks are gravity drain, valves under floor boards near head door. Please…do NOT overfill. Seacocks closed in harbors/coves please; USCG regulations say closed in all US waters.

6. **A/C Power:** When securing the boat with A/C Power on, leave the engine room A/C Outlets on to power the dehumidifiers in each engine compartment. A/C panel is located on the base of the port stateroom berth.

7. **Cabin Lighting:** To turn the lights on in the berths and heads, push the light itself

## 2. Specifications

Year built: 2016
LOA: 39' 4"
LWL: 39' 2"
Beam: 22' 8"
Displacement: 18,739 lbs
Draft: 4' 5"

Fuel Tank: 58 gals.
Holding: 12 gals x 2
Water: 160 gals. in 2 tanks

Engine:

- Twin 30HP Volvo Penta diesel engines with sail drives
- 3-blade folding props

Rig and Sails:

- Mast Height: 65' 9"
- Full-batten mainsail with lazy bag and lazy jacks
- Self-tacking, furling jib
- Furling gennaker (available for use by advance request, with qualified spinnaker resume')
- Electric winch for raising mainsail and jib sheet trim

Electronics:

- Garmin color GPSmap 721 chart plotter at each helm
- Autopilot with Remote
- Garmin GMR 18 radar
- Garmin GMI 20 display at each helm provides depth/speed/wind
- VHF
- Compass at each helm

Electrical:

- LED navigation and anchor lights (all mounted at the top of the mast)
- House battery bank: 3 x 12v 107 Ah gel batteries
- Start battery bank: 2 x 12v 90 Ah engine batteries (one per engine)
- Shore power
- Xantrex 1800W Inverter

Accommodations:

- 3 staterooms with queen berths (aft stateroom berths are 62"W x 79"L, forward stateroom berth is 61"W x 75"L).

- 2 heads, both offering separate showers and electric toilets.
- Leather dinette upholstery
- LED interior lighting
- 12v fans
- Diesel cabin heat with outlet in cockpit
- Head room: 6' 3"
- Fusion sound system with salon and cockpit speakers

Refrigeration:

- Refrigerator in galley
- Additional refrigerator in cockpit
- Separate freezer in starboard hull

Other:

- Primary anchor
- Secondary/Emergency anchor
- Electric anchor windlass with remote
- Anchor chain counter at starboard helm
- Dinghy davit
- Dinghy
- Outboard
- Cockpit cushions
- Twin helm stations, both with engine controls, carbon wheels and overhead bimini
- Custom full cockpit enclosure with sliding and roll-up panels
- Hot/cold cockpit shower
- Swim ladder

## 3. Emergency / Safety Equipment

- Fire extinguishers: 4 total, - one located in each berth area and one in the galley sink cabinet
- PFD's: – located under starboard cockpit settee
- Fog horn and Emergency flares: – Transom Locker
- Emergency bilge pumps: 2 total, - one located at the aft area of each cockpit settee seat. Each unit is a complete assembly with the pump handle integrated with the cover plate
- Emergency tiller: - long curved 1" stainless steel pipe in port cockpit locker
- Lifesling: - Starboard lifeline pultpit forward of the helm. Please review the instructions on the face of the case 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.
- VHF: - located at dinette table with external speaker
- Watertight Flash Light: – Transom Locker
- Cockpit cushions. In case of COB, throw anything that floats, quickly
- Binoculars – salon port dash board shelf
- Emergency Anchor – stowable Fortress anchor located in the port cockpit locker in a red canvas bag
- Tools – Starboard cockpit locker

# 4. Anchors

**Highlights**

- Please be careful of fingers and feet around the windlass
- 44# Lewmar Delta, 150' chain, 100' of nylon rope.
- Windlass Control stowed in anchor locker
- Secondary/Emergency Anchor. Stowable Fortress located port cockpit locker in a red canvas bag rode not found
- Bridle always hooked unless chain is moving
- Chain can build into mountain in chain locker when retrieving – occasionally push the pile down using the boat hook.
- 600' stern tie line located in port cockpit locker

**Details**

Main anchor – 44# Lewmar Delta mounted on the bow, with 150' 3/8" chain and 100' nylon rode. Chain length markings as follows:

- At 100' – 10' yellow paint
- Every 50' after – 5' yellow paint
- Last 20' – red paint

Anchor markings scheme placard glued to underside of anchor locker lid.

Windlass Circuit Breaker – located on the battery switch panel in the port stateroom on the base of the berth. See photo in Batteries section.

Bridle – Attached to anchor chain when anchor deployed. Secure to the cleat below the windlass when stowed.

Secondary/Emergency Anchor - Stowable Fortress located port cockpit locker in red canvas bag. Rode TBD

To Deploy Anchor:

1. We check tide tables to determine current water level and amount of drop while anchored.
2. Normal for the islands is a 4 to 1 scope, bow to bottom. In San Juans, anchorages are often about 25' bow to bottom, so we often deploy about 100' chain—hence the 10' marker at 100'.
3. Remove the light line securing the anchor to the boat.
4. Manually start the anchor over the roller then lower anchor to approximately the number of feet on the depth sounder (so the anchor is near the bottom) by depressing the down switch.

5. A signal to the helmsman prompts reverse at idle speed while deploying rode to the desired scope.
6. Allow the anchor to set and to stop the boat while it continues in reverse, idle speed. Then line up objects on shore to determine if we are holding, staying in reverse at idle for about one minute.
7. Finally, attach the bridle and deploy additional rode until the bridle takes the load.
8. If stronger winds are forecast, we test with RPM at half the projected wind speed (1,000 rpm for winds to 20 knots; 1,500 rpm for 30 knots, etc.), *after* setting the bridle. (We check movement shore side, not the significant prop current going by the chain.)
9. 10 - In storm conditions (or storm forecast), you can increase scope if there is adequate room to leeward.
10. The secondary anchor is available for additional holding power if a storm is anticipated, but best if set before the storm hits. Rode not found
11. If anchored in a small cove, you may wish to deploy a line ashore. 600' floating polypropylene on a reel resides in the port cockpit locker. Open transom doors; use the mop handle as an axle through the reel; set mop handle on helm seats. Deploy the line with the dinghy while the spool unwinds. If sufficient length, bring the line around a secure shore object and back to the boat to a transom cleat for ease of retrieval.

<u>To retrieve the anchor</u>:

1. Start the engine, given that the windlass draws from the engine start battery.
2. Depress "up" switch, always assuring the chain is vertical during retrieval—this avoids either towing the boat or dragging the chain against the hull. Into a breeze, we engage forward gear as needed, but exercise care that we don't over stand and drag the chain against the hull.
3. Bring the bridle aboard and secure it.
4. A mountain under the windlass can jam it and in rare cases cause a wild gravity runout of rode. If that happens, stand clear for safety. We avoid that chain "mountain" by "pushing" the chain into the well as it is retrieved, using the boat hook..
5. As the length of rode remaining approaches the water depth, the sound of the windlass laboring alerts us to immediately stop. Sometimes a brief pause will cause the anchor to break free, given the 90 degree angle of pull. A brief tap on the button, if laboring, says to break out the anchor with the engine in idle forward, not with the windlass.
6. To nest the anchor, the anchor may need to be swiveled. Use the boat hook to swivel the anchor until in the proper position then use the windlass to bring the anchor shank up and over the roller in one continuous motion.

7. After nesting, with a slight *slack in the chain*; we secure the anchor once again with the light line. As noted, the chain is only “unsnubbed” when it is moving in or out.
8. Reminder: stow the windless controller *before* closing the anchor locker lid.

## 5. Barbecue

- The BBQ mount is located on the starboard stern rail and plumbed to its own propane bottle located in the transom locker.
- Please clean grill when finished

# 6. Batteries/Charging/Inverter

**Highlights**

- Victron Energy Battery Charger - No need to touch battery switches. All automatically charged with combiner
- Engine start – Each engine has it own 80Ah battery
- House batteries – has 321 usable amp hours (Ah)
- Battery voltage, average consumption, current usage and capacity remaining measured in amp hours (Ah). Measured on the Victron Energy meter located on the DC electrical panel
- Inverter – Xantrex 1800 Watt inverter.

**Details**

All batteries are located under the port berth. Remove the mattress and lift the access panels.


Batteries: The batteries are charged by:

1. Running the engines
2. Shore power - verify that the "Battery Charger" circuit breaker on the AC panel is turned on. When charging, DC volts should show 13+.

Electrical Monitors:

The Victron Energy Monitor is located on the upper right corner of the DC electrical panel displays:

1. Voltage in the house bank.

2. The actual current flowing out of the battery (negative sign) or flowing into the battery (positive sign) in **Amps**
3. The power drawn from the battery (negative sign) or flowing into the battery (positive sign) in **Watts**
4. The amount of Ah consumed from the battery
5. State of charge in percent
6. Time to go, An estimation of how long the battery can support the present load until it needs recharging


Inverter:

The Xantrex 1800W inverter control panel is located the panel at the dinette table and displays:

1. Voltage in the house bank.
2. Input current from the battery
3. Actual output power in watts from the inverter when a load is being operated

# 7. Bilge Pumps

**Highlights**

1. Emergency Hand Pumps:
2. Electric Bilge Pumps:

**Details**

1. Emergency Hand Bilge Pumps – The hand operated pumps (one for each hull) are located at the aft end of each cockpit settee. The bilge pump handles are incorporated into the unit. There is a selector valve in each settee to allow you to use the emergency bulge pumps to evacuate water in the main hull or the engine compartment. Normally left in the main hull position.
2. Electric Bilge Pump – There are electrical bilge pumps located in each hull. Leave the bilge pump switches on.

# 8. Dinghy and outboard

**Highlights**

- 10' aluminum hulled Highfield dinghy (2016) mounted on dingy davits
- 6hp Honda on davit
- Please do not leave the Outboard mounted on the dingy while towing or overnight—may flip

# 9. Electrical

**A/C (110V) Panel**

- AC panel is located in the port cabin just to the left of the battery control panel.
- AC main breaker is located to the right of the AC panel

**DC (12V) Panel**

- DC panel is located at the top of the steps to the port hull, forward side.
- Main breaker for the panel is located on the battery switch panel which is located on the base of the port berth, forward outboard corner.

# 10. Electronics

## Autopilot

### Highlights

- Autopilot remote located on the panel at the dinette table
- Tap “engage” button (lower left) to activate
- Tap “standby” (lower left) to regain steerage

### Details

The autopilot is either on or off. Push “Engage” to activate. It will hold your present course. Push “Wind Hold” and it will hold your current wind angle. Push “Standby” to turn off the autopilot and return control to the wheel.

Note: wheel frozen? Tap "standby" to free the wheel.

## Chart Plotter

### Highlights

- Garmin GPS721 color chart plotter displays chart, radar, SOG, COG and other relevant cruising data.
- Separate unit located at each helm
- Nearly all controls are menu driven and use touch screen technology

## Radar:

**A.I.S.** - Automatic Identification System that shows most commercial vessels and many recreational vessels as triangles on the chart plotter

Details

## Depth Sounder

The depth sounder is calibrated in feet and is set to read from the transducer, which is about a foot below water level. Due to rocks, we get nervous in anything less than 30 feet underway and 15 feet in an anchorage.

The depth sounder is powered through the “Electronics” circuit breaker.

Please note that depth sounders sometimes give false readings in really deep water. In the San Juans, 400’- 600’ are common depths in some channels and you may see false

readings as the sensitivity on the transducer increases in an effort to give some reading, often from changes in water density, salinity, or underwater debris.

Due to those changes in depth readings (especially in very deep water), we do *not* set depth alarms, but always know our position on the chart.

Please note: You *cannot* rely on the depth sounder 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: we always plan our route on the chart and track our position on the chart plotter. Rocks are clearly marked.

**Knot meters**

You have two speed sources: speed through the water registered on the chart plotter, and speed over ground registered by the GPS on the knot meter located at each helm.

**VHF radio**

**Highlights**

- Garmin handheld GHS 10i located on the port side of the bulkhead at the dinette table
- External Speaker located on the starboard side of the bulkhead below the dinette table
- **Does not incorporate a weather band setting. Request a portable VHF with weather channels from the SJS office.**
- Always monitor Ch 16. As the nearest vessel to an emergency, you may well be able to save a life or a boat.

# 11. Engine

**Highlights**

- Twin 30HP Volvo Penta diesel engines with sail drives
- Controlled by electronic throttles/shifters at each helm
- Avoid excessive idling
- 2200 rpm is economy cruise
- 2500 rpm is fast cruise
- 2800 rpm is emergency fast cruise

Raw water strainers (located in each engine compartment) are above the water level. No need to open or clean unless the engine overheats. After cleaning, the strainer bowl should refill itself. If not, you may need to "blow out" eelgrass from the hose/seacock with the dinghy foot pump, very forcefully. When replacing the lid, please avoid over-tightening.

Electronic Throttles

1. A solid red light on the control head indicates control is active, press the black button on base to make active
2. Warm up mode
    a. To activate warmup mode, depress and hold the black button and move levers forward to the first detent, then release the black button.
    b. The control head indicator light will blink indicating throttle control only.
    c. Move levers back to neutral position, the light will stop blinking indicating system has reset to normal operation.

3. Helm Transfer
    a. Place control levers in Neutral where you will take command.
    b. Depress the black button located on the base of the control levers.
    c. The solid red light on the control head indicated control is active.
    d. To transfer helms while underway, throttle down the active lever to neutral then move to the other helm and make active.

4. Gear Shifting
    a. Always pause in neutral between shifts.
    **b.** There is a very slight delay after moving the lever into gear before the transmission engages. **It is very important to wait for the transmission to engage before advancing the throttle to increase RPM.**

Engine Start

1. The port and starboard engine control panels are both located at the starboard helm.
2. Assure control levers are in neutral. In cold weather, put the control levers in warm up mode (see above) and push the control levers forward to accelerate slightly for starting. This disengages the transmission for cold weather 1100 RPM warm-up.
3. Press the on/off button to energize the engine control panel
4. Press the start button until engine starts
5. Listen/look for water coming from aft starboard end of hull.
6. Most engines idle too long, causing carbon buildup. So if in a marina, we start the engines just before loosing lines. Same protocol if hoisting anchor or untying from a buoy—minimal idle. If starting after sailing, we allow one

minute at 1100 rpm, another minute or so in gear at 1500 before resuming cruising speed.

Running:

1. We are careful to pause 1-2 seconds after the "click" into gear before accelerating to ensure the control clutches have engaged to give us engine control and to protect the transmission. And, of course, we always pause when changing from forward to reverse.
2. 1400 rpm is about 4 knots
3. 2200 rpm is economy cruise, about 7.2 knots, approx. 1.3 gph, range
4. 2500 rpm is fast cruise, about 8 knots, approx. 1.5 gph, range: 35 hours
5. 2800 rpm is emergency max cruise, for short burst only.

Shutdown:

1. Cool at modest rpm for 2 minute after running at cruising speed, mainly if shutting down after the wind comes up (not necessary to cool down after entering a marina or anchoring, since the lower rpm will have cooled engine.)

2. Push the Stop button to engage the electric shutoff solenoid.
3. After turning off the engine to sail, slipping into *reverse momentarily* stops prop counter-rotation and feathers the Max-prop (you will sail faster!).
4. After engine has completely shut down, press the on/off button.

Engine overheat:
If the alarm sounds, or steam comes out the exhaust, please check 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 aft of the engine, which you saw on your Daily Engine Look over. (Note: raw water impellers are replaced annually as part of preventive maintenance.) If the engine overheats with adequate water flow out the exhaust, check the coolant level in the engine. Normally, the coolant level in the overflow plastic container is at the "low" level. If below the "low" level, add coolant until it's just above the low level.

# 12. Entertainment Systems

Fusion MS-RA205 True Marine Stereo

- USB operation
- Bluetooth Operation
- Radio Operation
- Check Manual for system operation

# 13. Fuel

**Highlights**

- Two 58gal. tanks, one located aft in each hull
- The fuel gauge is on the DC electrical panel
- Fuel fills are located below the deck near each helm station

**Details**

The gauges circuit breaker must be on and the rocker switch held to the desired tank to read the fuel level.

Fueling: Please fill very carefully because it is difficult to tell when the tank is full. You need to put your ear to the tank, not fill "too fast", and be prepared. Knowing how far down the gauge is, and about how many gallons the tank will accept, helps.

The attendant will give you absorbent pads. Before fueling, build a fuel absorbent dam fore and aft in case of overfill (reaching for the pads after the spill is too late).

We find these guidelines helpful: we don't fill too fast, track how many gallons are in, keep our ear to the fill, and occasionally check fuel level.

# 14. Heads and Holding Tanks

**Highlights**

- Both toilets are electric salt water flushing
- Holding tanks are gravity drain, 12 gal. each
- No Y valves
- There are two gray rocker switches. The switch on top is "flush". It brings in salt water and pumps it out simultaneously. The switch on the bottom separates those operations. Depressing one end brings in water, depressing the other end pumps it out.

**Details**

Rule of the Sea: *The person who clogs the head, unclogs the head.*
Experienced sailor rule: *To avoid the "rule of the sea" above, nothing goes down the toilet that hasn't been digested.* Please place feminine articles *and toilet paper* in the waste basket, plastic bag, or zip lock…makes for a much more pleasant cruise!

Here's what uses least water:
For *liquid* effluent:
1 - use the toilet
2 - depress the "drain" side of the lower rocker switch to pump out the liquid.
3 - Briefly toggle it to "fill" to rinse, then back again to "drain" to pump out.

For *solid* effluent:
1 - Depress the "fill" end of the lower rocker switch to bring in about a quart of water.
2 - Use the toilet.
3 - Depress the "drain" switch until the solids are evacuated, then press "fill" and "drain" as above. Sometimes the "flush" upper rocker switch is needed to remove everything.

Holding Tanks:
The holding tanks are approximately 12 gallons each. One is located above each toilet. There is no Y valve. The holding tanks are above the water line. Each tank has a deck fitting for use at a pump out facility. Alternatively, the large seacock, accessed under the floor boards, will evacuate the holding tank by gravity.

We urge you to use shore side facilities for solid effluent when moored in shallow bays and marinas where solid effluent has a measurable adverse impact…or the holding tank. Be aware that discharge in deep water is permissible in Canadian waters, but USCG regulations prohibit such discharge in US waters. The state director of salt water quality told us that urine from boaters has no adverse impact on marine waters. Some sailors maximize capacity by designating one head for liquids only (with the seacock open) and the other for solids only (with the seacock closed.)
Depending upon the number and type of flushes above, and the number of people aboard, each holding tank may hold about one to two day's usage.

# 15. Heaters

**Highlights**

- Hydronic forced air heater.
- Turn on with "Heater" circuit breaker on the DC electrical panel.
- Exhaust manifold located hi on the port hull aft. – **Check that no lines or fenders are covering the exhaust port.**
- Five separate zone, Four control by separate thermostats, one in each cabin and one at the dinette table. The fifth zone (cockpit settee area) has no thermostat.
- Fan control switch located near each thermostat and in cockpit settee area.
- Not efficient to run all night, noise wakes light sleepers.
- Check battery voltage in the evening and recharge if needed.

**Details**

The Hydronic thermostatically controlled forced air heating system draws from the port main diesel fuel tank. In our waters, we use the heater on cool evenings or to take the chill off in the morning.

To turn it on, use the "Heater" circuit breaker on the DC electrical panel. Set the desired temperature on the white OTIO thermostats that are located in each berth and at the dinette table. A two speed fan control switch is located next to the thermostats. The heater outlet in the cockpit settee area is not controlled by a thermostat, but does have a fan control switch located next to the refrigerator.

We flip down the canvas companionway flaps to retain heat in the cockpit settee area.

We normally turn off the heater at night, both to sleep cool and to avoid the clicking sound of its electric fuel pump.

# 16. Propane

**Highlights**

- Solenoid control panel is to the left of the starboard hull steps.
- Solenoid control panel is powered thru the Gauges/LPG circuit breaker on the DC electrical panel
- System uses one large aluminum propane tank for operation of the stove and oven. The BBQ uses its own propane bottle located in transom locker
- For safety, we turn off the solenoid after stove use

**Details**

The aluminum propane tank, located under the starboard cockpit settee seat in the corner under the cushions, is vented to the outside for safety. The tank normally lasts approximately 4 weeks. The San Juan Sailing staff weighs these tanks weekly to assure that you do not run out.

Troubleshooting: If the stove will not light, check:

- Propane bottle valve is full open
- Gauges/LPG CB is on
- Solenoid Control valve is energized.
- Stove knob is first pushed in and turned to the "ignite" position, then light and hold knob until the thermocouple heats.

*Caution: propane is heavier than air. If a leak is detected, extinguish all flames and ventilate the bilges.*

# 17. Refrigeration and Freezer

**Highlights**

- Freezer is located in the starboard hull forward of the head door.
- Main Refrigerator is located to right as you enter the galley.
- The second refrigerator is located in the cockpit settee area forward on the port side.
- Individual circuit breaker are located on the DC electrical panel.
- Check to be sure there is sufficient battery power to operate the refrigeration equipment all night. Usually there is.

# 18. Sails and Rigging

**Highlights**

- Full-battened main with three position reefing
- Furling self-tacking jib
- Gennaker: Available to Charter Guests with cruising spinnaker experience.

**Details**

Mainsail:

We have a "stack pack" zipped boom cover and lazy jack system. *No need to adjust the lazy jacks*…just unzip and hoist!

To hoist:
After attaching the main halyard to the head. and the boom cover top unzipped and the mainsail *directly* into the wind (any wind in the sail makes hoisting and lowering difficult!), crew at the mast pulls down on the main halyard while a second takes up slack through the closed sheet stopper at the starboard helm. When hoisting, insure that the battens do not get caught in the lazy jack lines. Once clear of the lazy jack line and hoisting gets hard, crew at the starboard helm can use the electric winch to continue raising the sail to the desired position.

When to Reef: Catamarans can be overpowered without the crew realizing that the boat could be in jeopardy. The prudent skipper will reef before the boat becomes

overpowered. The following manufactures guidelines are intended to guide the skipper.

1. Apparent Wind Speed up to 24 knots. Use full main and full jib
2. Apparent Wind Speed between 25 to 28 knots. Use 1st reef in the main and full jib
3. Apparent Wind Speed between 29 to 31 knots. Use 2nd reef in the main and full jib
4. Apparent Wind Speed between 32 to 35 knots. Use 2nd reef in the main and 60% jib
5. Apparent Wind Speed between 36 to 50 knots. Use 3rd reef in the main and no jib

Reefing:

1. Three large reefs are pre-rigged with tack tie downs and reef outhauls.
2. Release the mainsheet.
3. Release the mainsail halyard to the desired reef position
4. Secure the sail tack using the pre rigged tack tie down
5. Now fully tension the reef outhaul until the new clew is close to the boom. Then re-tension the main halyard and mainsheet.

Gennaker:

If you are *well experienced* in handling a cruising spinnaker, you are welcome to use this in appropriate conditions. It is a *very* large sail suitable for breezes under 15 knots.
It is stowed with its sheet and snatch block in the sail locker forward of the master stateroom, and accessed by the large foredeck hatch. The spinnaker is enclosed in a sock with a fiberglass "mouth" for ease of employment and dousing. To jibe, douse the sail, complete the jibe, carry the sheet around the forestay to the opposite side of the boat and open the sock. See photo for best sheet and block setup.

As you may know, the spinnaker is the most vulnerable of sails. Thank you for your care!

# 19. Showers and Sump Pumps

**Highlights**

- Separate shower stall in each head
- Transom shower
- Sump pump circuit breakers located on the DC Electrical panel. Both sumps have float switches.
- The transom shower features both hot and cold water.

# 20. Spares and Tools

Common Spares
Location: under center starboard settee cushion
Contents: oil absorbent pads, fuel filters, oil filter, impeller.

Heavy Duty spares
Location: under forward stateroom mattress, forward end.
Contents: spare float switch, spare electric bilge pump, spare domestic water pressure pump(s), spare engine starter, spare engine alternator, Yanmar tool set, battery jumper cables, bag with spare oil and fuel filters, light bulbs, outboard tools, toilet one-way check valves, spare shower drain pump.

Tools
Location: under center starboard settee cushion
Contents: West Marine socket and bit driver set. Toolbox with general assortment of tools

# 21. Stove and Oven

**Highlights**

- 3 burners, depress knob, turn left, use hand sparker
- stove off, then solenoid off

**Details**

The three burner propane stove must have the propane solenoid switch on to operate (to the left of the starboard hull steps)

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.

To light a stove burner, depress the knob, turn ¼ turn and light with the provided sparker. Note you don't need a flame…just the spark. Hold for a few seconds to heat the safety "thermocouple", then release.

To light the oven, depress the knob, turn ¼ turn and light with the provided sparker. Keep the oven knob depressed for about 30 seconds before slowly releasing, watching to make sure it remains lit.

# 22. Water

**Highlights**

- Two 80 gallon water tanks located forward on either side of the anchor locker.
- Tank selection valves located behind the access panel under the salon table at the forward end. Look for the small white valve knobs in the upper right corner.
- Deck fills are forward, one for each tank.
- Water level gauges are located on the DC electrical panel. Power is provided by the Gauges/LPG breaker. Hold toggle switch to the desired tank to read tank level.

**Details**

The valves are behind a large panel under the dinette table toward the starboard side. Before starting our cruise, we check that one valve is closed, the other open, so we can monitor use and forecast when we need to top off at fuel docks or marinas.

Hot water is produced by two methods:

1. Engine: It takes about an hour under solid load to heat the hot water tank. (Running the engine at idle won't heat the water.)
2. Shorepower: If hooked up, turn on the "hot water" circuit breaker on the A/C electrical panel located on the base of the port berth at the forward outboard corner.