S A P P H I R E

OWNER'S NOTES

Welcome aboard ***Sapphire*****,** a 2001 Tartan 3700. She is a classic performance cruiser with an emphasis on stability and a warm, welcoming, functional interior.

These Owner's Notes are a short-cut to getting you under way and to making your sailing experience aboard ***Sapphire*** enjoyable. Look for the **Key Note** heading for important operational instructions.

If you need further information about the boat or its equipment please ask San Juan Sailing or refer to the detailed *Service and Parts Manuals.*

Please note that ***Sapphire*** *is a no smoking vessel and no pets are allowed.*

Enjoy your trip on ***Sapphire*** as if it was your own. Please make note of any items that need repair and feel free to make suggestions in the Guest Comments book. We truly appreciate knowing about these and how you enjoyed your trip.

Happy Sailing! We're delighted to share ***Sapphire*** with you!

Kim Goforth and Thane Gill

SPECIFICATIONS

Year	2001	Displacement	16,150 lbs
LOA	37'- 0"	Fuel	38 gal
LWL	32'- 6"	Water	80 gal (two 40 gal tanks)
Beam	12'- 8"	Holding Tank	24 gal
Draft	5'- 0"	Engine	40 HP Yanmar
Bridge Clearance	56'- 0"		

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ACCOMMODATIONS

Berths

Our boat sleeps 6 to 7; two in the private cabin forward; two in the private aft cabin and two (comfortably) or three in the main salon. To dissipate body and boat moisture, each cabin has a "breathing barrier" under the cushions. (No need to raise the cushions for airing each morning.) The main salon starboard settee expands with a slide out panel underneath the cushions. The additional cushion for this berth is stowed in the aft stateroom.

Each stateroom is equipped with a cabin fan. To operate: Switch **CABIN FAN** circuit breaker **ON**.

The two speed fans are controlled individually by turning the center knob on the fan.

Refrigerator

The 12v refrigerator has both a top load hatch and front load door with a door activated interior light. This is a well-insulated unit designed for minimal energy use. There is a small freezer compartment that will keep meats or other food frozen.

Operation:

- Switch the **REFRIGERATOR** breaker **ON** at the electrical panel
- Adjust the thermostat located inside the unit. We usually set it at 6.

Stove

The Force 10 gimbaled propane stove has 3 burners and an oven. Propane is heavier than air and requires caution. Please note that the propane tank and control valve are located in the propane locker in the aft of the cockpit. This locker is vented and isolated from the rest of the boat. Any leaks there will move down, out, and away from the boat. San Juan Sailing staff fills the propane tank every 2 weeks. One tank normally lasts much longer than that.

For your safety, please follow these procedures:

- Open the valve on the propane tank all the way open and very slightly snug.
- Make sure all stove controls are in the **OFF** position.
- Switch the **LPG CONTROL** breaker **ON** at the electrical panel.
- Switch the **LPG CONTROL** breaker **OFF** at the electrical panel when finished with the stove.

To light Burners

- Push black **STRIKER** button and hold in.
- Push and hold burner knob until lit. Hold for 15 -20 seconds and then release.

To light Oven

- Turn oven knob to the left to desired temperature.
- Push black **STRIKER** button and hold and then.

- Push the **BLUE** button and hold until burner at bottom of oven lights.
- Hold **the BLUE** button for an additional 15 -20 seconds and then release.

To light Broiler

- Turn oven knob to the right.
- Push back the **STRIKER** button and hold and then.
- Push the **BLUE** button and, hold until burner at top of oven lights.
- Hold the **BLUE** button for an additional 15 -20 seconds and then release.

Note: Built-in strikers for stoves are notoriously finicky. If the striker does not work use the long handled butane lighter located in the spice rack behind the stove in lieu of the built-in striker.

Microwave

Recommended for use with shore power only.

Operation:

- Switch the **MICROWAVE** breaker **ON** at the electrical panel.
- Push the **POWER LEVEL/SELECT** button, push again to select power setting other than **HI.**
- On the numeric key pad enter the desired time in minutes and seconds.
- Push the **START** button.
- Switch the **MICROWAVE** breaker **OFF** when done.

Cabinets

The cabinet doors above the sink have a mirror insert that tilts forward for a better viewing angle. Access the tilt mechanism from behind the cabinet door.

Toilet

Directions for using the head are located on the bulkhead next to the toilet. Please do not put anything in the toilet that has not been eaten. Experienced sailors deposit toilet paper in a plastic bag or in a wastebasket, not down the toilet. The head has a 24-gallon holding tank located in the port lazarette. The "Y" valve is located mounted on the forward side of the sink cabinet. It is “locked” in the “pump to tank” position to comply with USCG regulations. If the use of the macerator is required the breaker switch is located on the electrical panel at the nav station. The macerator discharge through hull and valve is located behind the access panel under the aft shower seat. It is the valve in the middle and is normally in the open position. It is good to double check as it must be open when operating the macerator. San Juan Sailing staff will discuss holding tanks and pump-outs on your arrival.

Holding Tank

Please monitor the level in the holding tank (24 gallon capacity). The tank is equipped with external sensors that read the level in the tank. The tank indicator panel is located in the head in the front of the sink cabinet. When the lights blink the sensor is taking a reading in the tank. The panel lights indicate:

BLUE:	**Empty**
GREEN:	**1/4 full**
YELLOW:	**1/2 full**
RED:	**2/3 full**

When the **RED** light is on (2/3 full) you still have some capacity left but you should plan on pumping out the tank as soon as possible. The pump out access plate is on the deck adjacent to the port lazarette. Deck plate key is in the nav station drawers. The tank should be pumped out, filled with fresh water through the deck fitting to rinse, and then pumped out again.

Shower

The head has a separate shower stall with a Plexiglas enclosure. The water is heated automatically by the engine running under load (after about a half hour) but running it at idle in the morning won't do it. The hot water is stored in an insulated 6 gallon tank. It can also be heated electrically when on shore power. Experienced cruisers know the sailor's shower: get wet, turn it off, soap up, rinse off. The shower drains to sump pump with a float switch that is located under the floorboard just forward of the companionway steps.

CAUTION: The engine can heat the water to scalding temperatures.

Main Cabin

You will find ample storage in the main cabin behind the seat backs. The drawer in the table has some games our family enjoys. The upper port cabinets contain cruising guides, equipment manuals and other cruising related books.

Headroom in the main cabin is 6' 4" inches.

Cabin lights are controlled on the main electrical panel. Switch **LIGHTS PORT** and **LIGHTS STBD** breakers **ON**. Individual lights are controlled at each fixture. Several overhead lights have red night lights. Push the switch one way for a red light, push the other way for white light.

At the top of the companionway step on the port side is a switch that operates red night lights in the cabin. Winch handles and sail ties are stored under the hinged top step of the companionway.

The framed print of two orcas is by Alaskan Tlingit Master Artist/Carver Kinstaádaál (Israel Shotridge) who resides on Vashon Island, WA - Sapphire's home port. Orcas or killer whales, symbols of mysticism, are thought to be the reincarnation of great chiefs and are associated with strength, dignity, prosperity and longevity.

ANCHORS & ANCHORING

Main Anchor

Main anchor (located in the anchor locker at the bow) is a 44 lb. Lewmar stainless steel claw anchor with 150' of chain and 100' of three ply nylon rode. The chain and nylon rode are marked yellow at 50' intervals; one stripe at 50', 2 stripes at 100', 3 stripes at 150' and so on.

Secondary Anchor

The secondary anchor, a heavy-duty aluminum Fortress anchor with 50’ of chain and 300’ of nylon rode, is located in the port cockpit locker. Its chain and rode are stored in the anchor locker at the bow. It is smaller and with slightly less holding power than the primary, but perfect for a stern anchor or secondary bow anchor.

Stern Tie Line

600 feet of nylon line is stored in the port lazarette on a spool for those occasions when a stern tie to shore is called for. Please rewind the line onto the spool when finished.

Electric Anchor Windlass

The windlass receives power from the battery. Always operate the windless while the engine is running, otherwise the windlass will drain the battery. The **ON** and **OFF** switch for the windlass circuit is at the nav station.

The up-down controllers for the windlass are located on the deck next to the anchor locker. One is red and marked **UP** and one is gray and marked **DOWN**. Flip the covers up to control the windlass with foot pressure.

Deploying the Anchor

With an electric windlass it is important to *lower the anchor into the water by hand*. Pay out enough slack in the chain so that you can hand lower the anchor into the water about one foot below the water. By hand setting you will be able to buffer the “pendulum” action that can cause a partially deployed anchor to swing and ding the bow. Once the anchor is in the water use the electric windlass to lower the anchor to the bottom and deploy the desired amount of scope.

Anchor Snubber Line

The anchor snubber line is located in the bow anchor locker. It is 15’ of black 3-ply nylon line with a galvanized hook**.** Secure the hook to the anchor chain about 2 feet below the bow roller. Pass the line through the bow roller and secure the line to one of the forward cleats. Ease the windlass so that the line tension is on the snubber line and not on the windlass.

Retrieving the Anchor

1. Start engine
2. Turn **WINDLASS** circuit breaker **ON** (located at the nav station below the electrical panel).
3. Turn **ANCHOR WASH DOWN** switch **ON** (located on the main electrical panel).
4. Connect hose located in bow locker to on deck fitting. Turn spray nozzle off.
5. Open anchor wash valve thru hull in the main bilge compartment just aft of the main salon table.
6. Head the boat under power toward the anchor.
7. Note: When retrieving the anchor, *never* use a windlass to pull the boat to where the anchor is set. The windlass is powerful enough to do that, but it might rip itself from its attachment point. Instead, head the boat under power toward the anchor.

8. Retrieve the anchor by pressing the red **UP** switch.
9. *Note: As the length of rode remaining approaches the water depth, listen carefully for the windlass to labor. If the windlass is straining, stop the windlass and break out the anchor with the engine, not the windlass.*
10. Clean the chain and anchor as needed with the salt water pressure hose during retrieval.
11. Use the windlass to slowly bring the anchor shank up to the bow roller, then stop!
12. Check that the anchor is not inverted (swivel if necessary).
13. Step on taut chain, grab the shank and nest the anchor by hand.
14. Secure anchor with the snubber line to a deck-mounted cleat. After nesting, leave some slack in chain.
15. Switch **ANCHOR WASH DOWN** circuit breaker **OFF.**
16. Switch the **WINDLASS** breaker **OFF.**
17. Close anchor wash valve thru hull in the main bilge compartment. This is the main control valve. ***Make sure it is securely closed.***
18. Disconnect and stow the anchor wash hose.

BARBECUE

The Magma barbecue (2013) gas valve is located in the propane locker in the aft of the cockpit. Turn the yellow valve on and then follow the lighting directions located on the side of the barbecue. There is a stainless grill brush fixed to the BBQ to clean the grill after using.

BATTERIES

The two AGM house batteries (2014) and one AGM start battery (2014) are located in the aft cabin below the cushions amidships. Two additional house batteries are located in the lazarette (2015). The boat is equipped with an automatic charging relay and inverter. The large red battery switch is located at the nav station. Just leave this switch in **ON** position. The system automatically combines batteries when charging and isolates batteries when discharging.

Key Note: Monitor the voltage of the house batteries (battery bank 2) via the electrical panel DC voltmeter. Recharge the batteries when voltage drops below 11.5 volts. Recharging occurs automatically when the engine is running. If recharging is needed while at anchor, run the engine in neutral at 1800rpm for an hour or two.

BILGE PUMPS

Electric on-Demand

The electric bilge pump is controlled at the nav station (labeled **BILGE PUMP).** The switch should always remain on **AUTO**. The pump will only engage when enough water covers the float switch. You may switch to manual by pushing the switch to **MAN** and holding it in that position. *Please check the bilge each day, morning and evening*. It is accessed by lifting the floorboard just aft of the dinette.

Sump Pump

The sump bilge pump is located below the floorboard just forward of the companionway steps. The sump pump handles the discharge from the shower, head sink, and refrigerator.

Key Note: Manual Emergency

The emergency bilge pump is located in the cockpit the near the helm just aft of the port lazarette. The pump handle is clipped to the top shelf in the port lazarette.

COCKPIT

Swim Platform

To operate:

- Turn **ON** the **ENTRY STEP** circuit breaker (located on the main electrical panel).
- **Key Note:** Depress the black switch (located at the stern on the starboard side) to raise and lower the swim platform.
- The swim ladder is secured with a bungee cord. Please re-secure after use.

Hot & Cold Shower

There is a hand held hot and cold shower head located on the port side of the swim platform. To operate:

- Turn the **WATER PRESSURE** switch **ON** (located on the main electrical panel).
- Pull out the **T** handle. This brings water to the shower head.
- Rotate the **T** handle to control water temperature.
- Depress the push button on the shower head to activate.

Cockpit Cushions

Cushions are located in the aft stateroom. Use either the navy blue canvas or white leatherette side. Please securely snap the helm seat to prevent loss overboard. At night we tuck the cushions under the dodger for protection.

Fenders

Cloth covered fenders are stowed in the port lazarette. To protect the blue hull from “sanding” by salt crystals, we wipe any salt crystals from the hull at the point where the fenders rub the hull. Whenever we rinse the hull we also rinse the cloth-covered fenders. Each fender is on a fender hanger with the line adjusted to hang the fender just above the water line. If they hang just above the waterline, they won’t absorb salt water.
Additionally there is a fender step supplied by San Juan Sailing. Please position the cloth skirt between the fender step and the hull to prevent the fender from “sanding” the hull.

Night Lights and 12 Volt Outlet

Red night-lights for the cockpit and swim platform are controlled by a black switch located in the recess on the starboard side just above the engine instrument control panel. Also located here is a 12 volt cigarette lighter type outlet.

DINGHY & OUTBOARD

Dinghy

The 10’6” Achilles dinghy (2013) with a fiberglass bottom is stable, rows well, and tows with the least drag if brought close to the boat. Please take the following precautions:

- Never tow the dinghy with the outboard on the dinghy. Always transfer the outboard to the sailboat transom when towing or not in use.
- Never leave the outboard on the dinghy overnight.
- Tow the dinghy about 8 - 10 feet off the port quarter, away from the starboard engine exhaust. This lifts the dinghy bow, reduces drag, and guarantees that you won't accidentally wrap the painter around the propeller when you back up! Tie the painter off twice--a cleat tie close and the bitter end on the stern rail.

As owners, we would *very much appreciate* your special care when beaching the dinghy. Local beaches are often rocky and barnacle encrusted. Here’s what works best: launch a person off the dinghy bow as you approach shore; then offload everyone over the bow. Lift the dinghy above barnacle height and deposit it gently on the beach. Secure the painter to a large rock or log—a rising tide can leave you high and dry without a dinghy.

Outboard Motor

The dinghy motor is a 4-stroke Honda 2 horsepower outboard (2011). This brand and size has proven to be a practical and VERY reliable dinghy outboard. DO NOT add any oil to the gasoline mixture – it uses just straight gasoline. The fill cap is located at the top of the engine.

To Start

1. Push the fuel valve lever to **ON.** Located on the aft starboard side of the outboard.
2. Pull out the choke.

3. Open the air vent on the top of the fuel cap by turning counterclockwise.
4. Make sure the black U-shaped kill clip is clipped into the red shut-off knob.
5. Turn the handle throttle to the start position.
6. Pull the rip cord until it starts.
7. **Key Note:** When the motor starts it will move the dinghy forward immediately. Be prepared.

Reverse

There is no gear selector on this outboard motor. While in idle slowing turn the outboard a full 180° to reverse thrust and travel backwards.

While Running

1. Push the choke back in shortly after the engine starts
2. There is no transmission--just throttle up to go forward and throttle down to stop. If you want to go in reverse--just swivel the outboard around 180 degrees.

To Shut Off

1. Shut the outboard off by pushing in the red shut-off knob (where the kill clip is clipped in). Or just pull the lanyard until the clip pops off.
2. To avoid prop damage, shut the outboard off and raise it out of the water before you reach the shore. Pull the outboard forward and out of the water until it clicks at stays in place. To put the outboard back in the water, release the stainless steel lever on the starboard side of the outdrive.

When Not in Use

1. Put the outboard back on the outboard mount on the stern rail and tighten both braces.
2. Push the fuel valve lever forward to close.
3. Close the air vent on top of the fuel cap.

DODGER & BIMINI

The Iverson dodger, connecting panel, and bimini (2014) provide welcome protection from sun, wind and rain. There is a small LED flashlight located on the aft end of the dodger, very handy to read the combination lock at night; just push the button on the end to activate.

Key Note: The most vulnerable part of the dodger is the plastic "glass". Please avoid touching it as much as possible. To clean, use only a sopping wet sponge, flooding with lots of fresh water. The worst villains are:

- ***Salt Spray*** collects on the glass and dries in the wind, leaving behind tiny salt crystals that act like sandpaper on the glass. "Flood" off the crystals with a pan of fresh water from the

galley. Better yet, wait until you're at a dock where you can hose off the salt crystals. If the dodger glass is really clear, you can thank previous guests for their diligence.

- ***Sun Screen and Bug Spray*** reacts chemically with the glass. Please inform your crew to spray sunscreen or bug spray downwind of the dodger glass. Please do not lean against the dodger with sunscreen on your back and shoulders, or touch with your hands. Once the chemical reaction takes place, the glass is ruined and must be replaced at a cost of about $400 per panel.

ELECTRONICS

Electrical Panel

For your convenience the breakers on the electric panel, located at the nav station, are coded with dots as follows:

- **GREEN** Always **ON** for normal operation
- **YELLOW** Turn **ON** as needed
- **RED** Never activate

120 Volt AC Distribution

Located on the right side of the main electrical panel. When on shore power, turn **ON** the double breaker labeled; **1** and **REVERSE POLARITY**.

12 Volt DC Distribution

Located on the left side of the main electrical panel. Turn **ON** the switch labeled **DC MAIN.**

Located below the main electrical panel on the battery switch.

12 Volt Devices

There are DC outlets for recharging a cell phone, laptop, tablet or other 12 volt devices.

- Turn **ON** the switch labeled **DC MAIN.**
- Power on by flipping **ON** the breaker labeled **DC OUTLETS**.
- *C*igarette lighter type: Two 12 volt outlets, one is located at the nav station, the other in the cockpit in the recess above the engine instrument panel.

USB Outlets

There are two USB outlets located on the of the nav station. These are for charging USB devices they you have brought. They are both capable of charging larger devices such as an iPad and other tablets. There is a 30-pin Apple iPod cable location inside the nav station desk if you need one, please make sure not to take it with you.

- Turn **ON** with the switch labeled **DC-OUTLETS**.

Auto Pilot

***Caution**: Passage making under autopilot control is an enjoyable experience that can, if you are not careful, lead to the relaxation of the permanent watch. A permanent watch MUST be maintained no matter how clear the sea may appear to be.*

The Raymarine P70 Autopilot control head is located at the helm.

Switch On – Nav Station

- Switch the **NAVIGATION INSTRUMENTS** and **AUTOPILOT** breakers **ON.**

Switch On or Off– Helm Control Head

ON

- Press and hold the **STANDBY** button for one second until the Raymarine logo appears.
- *Note: The Raymarine logo is not displayed if the unit is in 'sleep mode'. The unit may appear off but still has power.*

OFF

- Press and hold the **STANDBY** button. After 1 second a pop up will appear.
- Continue to hold the **STANDBY** button for as further 3 seconds to complete the power off.
- You cannot power down the pilot controller while in **AUTO** mode.

Standby Mode

- In **STANDBY** you have manual control of the helm and the display shows the vessel's current compass heading
- You can disengage from **AUTO** or any autopilot mode at any time by pressing the **STANDBY** button.

Auto Mode

- To use the autopilot system to steer automatically towards a heading.
  - Steady the vessel on the required heading.
  - Press **AUTO**
  - The autopilot is now in AUTO mode and will steer to the chosen heading, shown on the display.
- To change course while in **AUTO** mode
  - Use the –1 and –10 button to change the vessel's course to port. Pressing –1 button will increment the course to port by 1º and –10 will increment by 10º.
  - Use the +1 and +10 buttons to change the vessel's course to starboard. Pressing +1 button will increment the course to starboard by1º and +10 will increment by 10º.

Depth Sounder

The depth sounder indicator is located above the companionway hatch. Activate by switching the **NAVIGATION INSTRUMENTS** breaker **ON.**

Inverter-Charger

A 1500 watt inverter/charger (2014) that converts DC power to AC power is located in the starboard lazarette. The inverter/charger includes an internal, automatic 30 amp AC transfer switch that senses the presence of AC shore/station power. Upon connection to a shore power/shore station source, the inverter/charger will switch from INVERTER mode (providing AC power via DC battery source) to CHARGE mode, automatically. The system also automatically combines batteries when charging and isolates batteries when discharging.

Key Note: Remember: the inverter consumes DC battery power to supply the AC loads. Do not run large appliances such as the water-heater or microwave via the inverter as this will quickly drain the batteries.
Three position red rocker switch settings (located below the electrical panel at the nav station):

- **AUTO STANDBY** Normal position while connected to shore power.
- **OFF** Both the inverter and the charger are disable.
- **ON** Power to inverter is enabled. Normal position while under way and AC power is desired.

Knotmeter

The knotmeter indicator is located above the companionway hatch. Activate by switching the **NAVIGATION INSTRUMENTS** and **AUTOPILOT** breakers **ON.** If the knotmeter shows a reading of "0.00" while underway, the impeller is most likely clogged with a piece of eelgrass. Sometimes it will float off overnight. You can also try removing it by traveling in reverse.

Radar & Chart Plotter

The Raymarine radar and chart plotter displays (2013) are located at the helm and the nav station. The nav station display is the master unit and the helm display is the “slave”.

Key Note: Always activate or deactivate the nav station display prior to activating or deactivating the helm display.

Switch On – Nav Station

- Switch the **NAVIGATION INSTRUMENTS** and **AUTOPILOT** breakers **ON.**
- Press the **POWER BUTTON** at the nav station display and select **ACCEPT**. Both these operations will take a few seconds.

Home Screen

- Select **CHART** for navigation display.
- Select **FISHFINDER** for depth sounder display.
- Select **RADAR** for radar display.
    - Radar may need load and will count down to standby mode.
    - Press **POWER BUTTON** to access radar pop up window.
    - Press **RADAR Tx** (in the blue rectangle).

- Press **X** to close the pop up window.
- *Note: If for some reason the radar does not load, follow the Switch Off sequence below and repeat the Switch On sequence.*

- Select **DOC VIEWER** for display of Owner's manual. A hard copy of the Owner's manual is located in the main salon port side cabinet**.**
- **WEATHER, CAMERA** and **THERMAL CAMERA** instruments are not available.
- Press, hold and swipe the home screen to access split view screen selections.

Switch On – Helm Station

- Press the **POWER BUTTON** at the Helm station display and select **ACCEPT.**

Switch Off

Key Note: the following is an important sequence. The unit needs to shut down properly to retain its settings.

- Press and Hold the **POWER BUTTON** at the nav station display until the countdown reaches zero (about 3 sec).
- Press and Hold the **POWER BUTTON** at the helm station display until the countdown reaches zero (about 3 sec).
- Switch the **NAVIGATION INSTRUMENTS** and **AUTOPILOT** breakers **OFF.**

Other Functions

- Refer to the owner's manual.

Stereo

The Fusion Stereo (2013) is located at the nav station with two speakers in the main cabin and two speakers in the cockpit.

- Power on by flipping **ON** the breaker labeled **STEREO.**
- Press the **RED** power button to turn the unit on.
- Plug the supplied audio cable into your MP3 device, laptop, iPhone or iPad.
- Press the **RIGHT ARROW** button until **AUX** appears in the display.
- Start playback on your auxiliary audio device.
- Use both the volume control on your auxiliary device and the volume control on the unit to set the volume level.
- Adjusting the Volume and Zones
  - Turn the large rotary dial to adjust volume.
  - Press the large rotary dial to step though the zones. Adjust the volume for each zone when the zone is selected.
    - Zone 1 is the Main Cabin.

    - Zone 2 is the Cockpit.
- Additional functions refer to blue notebook: Volume II Equipment Manual, Fusion Marine Stereo MS-RA200.

VHF Radio

The iCOM VHF radio (2014) is located at the nav station with a remote command mike at the helm. The remote mike enables you to hear, tune, and transmit from the cockpit and makes it practical to monitor channel 16. The FCC requires any vessel equipped with a VHF marine radiotelephone to maintain a watch on channel 16 whenever the radiotelephone is not being used to communicate. The remote mike (located in a nav station drawer), if not already connected, should be attached before turning on the nav station VHF.

To operate:

- Switch the **VHF** breaker **ON** and the depressing the **POWER** switch located on the VHF unit.
- After establishing contact on channel 16, switch to working channels 68, 69, 79, or 80. San Juan Sailing monitors channel 80A during office hours (closed Sundays).
- Press the **CH/WX** button once or twice to access the weather channels. **WX** appears when a weather channel is selected. Rotate the large dial to select a channel (usually channel 4). This is generally is a light wind region but weather changes can be sudden. Listen for the "Inland waters of Western Washington" or "Camano Island to Point Roberts". Both cover the San Juan Islands. You will also hear "Strait of Juan de Fuca" (south of the San Juan Islands),"Georgia Strait" (north), and "Rosario Strait" (runs through the eastern part of the San Juan Islands).

In Case of Distress

By phone you can reach:

- **San Juan Sailing Office:** (800) 677-7245
- **Steve Pinley:** Maintenance Professional - (360) 303-6668 (cell)

If your vessel requires immediate assistance, contact other vessels and the Coast Guard by sending a Distress call on Channel 16.

Channel 16 Distress Call Procedure

1. "MAYDAY, MAYDAY, MAYDAY."
2. "THIS IS SAPPHIRE, SAPPHIRE, SAPPHIRE"
3. "LOCATED AT ....." (Your position).
4. State the nature of the distress and assistance required.
5. Number of persons onboard.
6. Any other information which might facilitate the rescue.
7. "OVER"

OR, transmit your distress call using digital selective calling (DSC) on Channel 70.

Digital Selective Calling (CH 70) Distress Call Procedure

1. While lifting up the key cover, push and hold DISTRESS for 5 sec. until you hear 5 short beeps change to one long beep.
2. Wait for acknowledgement on Channel 70 from a coast station.
3. After acknowledgement is received, Channel 16 is automatically selected.
4. Use the microphone to transmit any additional information.

ENGINE

Sapphire is equipped with a Yanmar 40 hp 3 cylinder diesel and 3 blade feathering Maxprop. The engine is not known to use oil; nevertheless, a spare quart can be found under the seat at the nav station.

Starting

1. Check the oil level. The dipstick is located on the starboard side and about the midpoint of the engine. Access the dipstick from the aft cabin engine cover. The oil level should be between the upper limit line and the lower limit line. If the dipstick indicates no oil the first time you check it, reinsert and try again - the correct level will show when the air lock bubble is broken.
2. Add oil If needed. Use the onboard spare oil to add no more than a cup at a time. The filler port is on the starboard side of the engine. Access the filler port cap (yellow) via the companionway steps/engine cover. Then check the level again. Then, after waiting about 2 minutes for the oil to trickle down to the pan, check the level again. Above all, ***DO NOT OVERFILL***. Overfilling is not good for a diesel engine. The excess oil will escape somehow, perhaps by blowing the head gasket. Also, expect the oil to be blacker than that of a gasoline powered engine. This is normal for a diesel after only a few hours of operation.
3. Make sure the gearshift is in **NEUTRAL**- directly vertical.
4. Insert the key into the key switch and turn the key to ON, The alarm buzzer and lights will come on which is normal.
5. Continue to turn the key to **START**. Release the key switch when the engine has started.
6. Turn the key for a maximum of 5 seconds in the **START** position. If the engine does not start the first time, wait for about 20 seconds before trying again.
7. After the engine has started the key should remain in the **ON** position.
8. Check the following at low rpm:
9. Check for functioning gauges on the instrument panel.
10. Check for sufficient cooling water discharge from the seawater outlet pipe at the stern.
11. Before placing a load on the engine check that the exhaust color and engine vibrations are normal. Continuous black exhaust indicates engine overload.

12. Allow 5 minutes of warm up.

Operation

While the engine warms, check the fuel level gauge at the nav station Also check and record your engine hours. Note: Fuel gauges on boats tend to be less than accurate. Keep track of the hours of running time, and figure about ¾ to 1 gallon burned an hour. The tank holds 38 gallons.

Cruising speed (depending on wind and current) is approximately 6.0 knots at 2500 RPM and 7.0 knots at 2800 RPM. With the 38 gallon fuel tank, this yields a range of 250 - 275 nautical miles, or about 38 - 45 hours of cruising time. Please do not exceed **2800 RPM** as it is hard on the diesel to push past cruising hull speed at very little increase in speed. There is a red dot on the tachometer indicating optimum cruising RPM.

Engage **FORWARD** gear by pushing ahead on the throttle, **REVERSE** gear by pulling back on the throttle. Please remember to pause in **NEUTRAL**, the straight up position, when changing shifting from forward to reverse and vice versa. To run the engine in **NEUTRAL,** when changing**.**

Engine Overheat

If the buzzer sounds while the engine is running, immediately check the oil pressure and temperature gauges. If oil pressure is flat, shut down the engine, check the oil level, and contact San Juan Sailing. Most likely a buzzer means the engine has overheated. Check for water gurgling out the exhaust. If gurgling, check the coolant level. If there is no water gurgling, the water strainer is likely plugged with eelgrass. Eelgrass looks like an exploded view of lawn clippings. They are about 3 feet long, brownish green, flat and about 1/2 inch wide. Look for them in two places--floating masses undulating on the water, and in "tide lines", those soapy lines in the water that contain other intimidating debris as well. Best solution here is prevention--keep an eye peeled for eelgrass masses, tide lines and steer around them.

Should you accidentally run over eel grass (and your engine overheats), the raw water strainer must be cleared of the eel grass. The raw water strainer is BELOW water line, so to clear eel grass from the strainer basket, you will need to shut off the raw water thru-hull Seacock valve **BEFORE** you open and clear the strainer. The thru-hull for the raw water intake is located under the galley sink. There are 2 thru-hull Seacock valves under the sink, both labeled, so please check to make sure you close the correct thru-hull. The raw water strainer is located at the forward end of the engine, accessed by lifting the companion way steps. The top of the strainer is a round cap secured by 2 wingnuts, and is at the floor board level. Ease the wingnuts to take off the cover. After inspecting and/or cleaning the strainer basket, put the cover on, and tighten the wingnuts. (TIP: Tighten each wingnut a little at a time, alternating from one to the other, to get a nice tight seal on the cover.) **VERY IMPORTANT**: Make sure you have **RE-OPENED** the raw water thru-hull Seacock valve **BEFORE** you start the engine.

General Engine Shutdown.

Key Note: First bring the engine to idle and the gearshift to neutral. Allow the engine 5 minutes to cool down if you have been under significant power. Then push the **RED** button next to the ignition switch.

Key Note: DO NOT turn ignition key to the **OFF** position while the engine is running**.** After the engine stops, the buzzer will sound until you turn the ignition key switch to **OFF**. Remove the key.

Note: If you shut down the engine in order to sail move the transmission/throttle momentarily into reverse and then back to neutral. This will stop the prop rotation and cause the blades to feather properly.

EMERGENCY & SAFETY EQUIPMENT

Anchor Retrieval Kit located under the starboard cushion in the V berth. Instruction for use are included.

Distress Signal Kit Located below the seat at the nav station.

Emergency Tiller Located in the port lazarette. Access plate is directly aft of the helm at the raised seat. Spanner for the access cover is zip-tied to the emergency tiller.

Flashlights One LED flashlight is mounted in each stateroom adjacent to the door. Additional flashlights are located in a nav station drawer.

Fire Extinguishers One extinguisher is mounted in each stateroom adjacent to the door. One extinguisher stored in the lowest drawer at the nav station.

First Aid Kit Located in an upper cabinet in the head.

Fog Horn Located in a drawer at the nav station.

Lifesling A Lifesling is mounted on the starboard stern rail. Review the directions on the face of the cover for procedures. The lanyard is secured to the boat so that the harness will tow behind the boat like a ski tow rope. Circling the person overboard will draw the recovery line near them.

Life Jackets Vest style life jackets are located in the port lazarette

Manual Bilge Pump The emergency bilge pump is located in the cockpit the near the helm just aft of the port lazarette. The pump handle is clipped on the top shelf in the port lazarette***.***

Radar Reflector Located on the backstay.

Radio/VHF Use the red distress button on the nav station Radio. Flip up the cover and press and hold the button for 5 secs.

Spares *Sapphire* is equipped with a tool kit and with engine and general spares and lubricants. These are located under the nav station seat.

Through Hulls Each through hull is equipped with a tapered wooden plug. A mallet is located in the tool bag under the nav seat. Through hull locations fore to aft: (Note: Also refer to the diagram following these notes).

- V Berth: transducers for depth sounder and knotmeter.
- Main cabin under floorboard just aft of the dinette: Anchor wash down intake.
- Galley sink cabinet: Galley sink drain, Engine raw water intake.
- Head, under aft shower seat: 1-1/2” for Direct Head Discharge, 1” Holding Tank/Macerator Discharge, 3/4” Raw Water Intake.

FUEL TANK

The 38 gallon diesel tank is located under the starboard settee. The deck fill port is located on the starboard rail just forward of the mast. The fuel gauge is located at the nav station. If it dips much below half, add fuel. Running out of diesel involves a lengthy bleeding process that you would really rather not do. Please be very careful when fueling. Never allow maximum flow from the filler hose. If you do, the fill tube will surge and diesel will spill onto the hull from the vent. The vent is located at the stern on the starboard side. Fill slowly and carefully. When the pipe begins to gurgle like it's full, you are probably full. Check the vent and wipe up any excess fuel to avoid staining the hull and polluting the water. Also, be very careful of drips when removing the hose. Diesel on the deck is very slippery. After wiping please use soapy water to scrub down any drips.

HEATER

The Espar cabin heater is located in the port cockpit locker. It is thermostatically controlled and draws fuel from the diesel tank. The heater control is located on the dinette side of the nav station. To operate move the rocker switch to the **ON** position and rotate the temperature dial. NOTE: The heater takes about 5 minutes to cycle up to temperature and 5 minutes to cool off. There are outlets at floor level in each cabin, the head and in the main salon. Check and make certain that vents are open. The heat is dry, comfortable, and on those rainy days or cool evenings makes a huge difference in cruising comfort.

SAILS & RIGGING

Mainsail

The mainsail is a UK Carbon Tape Drive full batten with a Lazy Jacks. The main is pre-rigged for two reefs both of which are handled with single lines which lead aft to the port cabin-top winch. The main halyard is shackled to the starboard shroud or to the end of the boom to reduce wind rattle while at anchor or at the dock.

Deploying the Mainsail

- Unzip the cradle cover and leave in place. Remove front zipped bra and store in safe place. This is best done before leaving the dock.
- **Do not release or adjust the lazy jack lines. They are set to remain in place under sail.**
- Steer head-to-wind and maintain.
- Attach the halyard to the head of the sail.
- Release mainsail reefing lines, mainsheet, and boom vang.
- Pull down on the halyard at the mast, while someone in the cockpit takes up the slack. Watch the battens as they pass through the lazy jack lines to prevent snagging.

- Winch the halyard up the last few inches to eliminate wrinkles in the luff.

Lowering the Mainsail

- Steer head-to-wind and maintain.
- Lower the mainsail quickly into cradle cover.
- Stuff sail as needed into cover.
- Zip up cover and attach bra zippered piece. This is best done at the dock.

Reefing the Mainsail "Reef early and reef often"

- De-power the main by heading up or heaving to.
- Tighten topping lift has to hold up the boom.
- Let the tension off the boom vang and the main sheet.
- Lower the mainsail so the desired reefing point is about 24 inches above the boom.
- Cleat off the main halyard to keep tension on the halyard.
- Pull in on the reefing line (using the winch if necessary) to tighten the sail.
- If needed, raise the main halyard slightly with the winch.
- Secure the lose portion of the sail to the boom. Reefing ties are located below the top step in the companionway.

Headsail

The 130% genoa has roller furling for your convenience. Whether fully or partially deployed, you'll have good sail shape. Slight hand-over-hand tension on opposing lines –furling line and sheets – prevents problems such as a rat's nest on the drum (should the wind catch the sail and unwrap it violently) or a baggy furled sail.

Cruising Spinnaker

A UK Gennaker with snuffing sock and rigging is available upon advance request with qualifying spinnaker resume. Please notify San Juan Sailing if you wish to use this equipment.

WATER

There are two 40 gallon water tanks; one is located under the starboard settee and the other under the V berth. Selection valves are located under the gallery sink. Both are normally left open.

Water fill ports (one for each tank) are located on deck on the port side near the mast. Please do not overfill. The tanks are full when you hear gurgling in the line. The overfill line for both tanks are just below the deck and drain into the bilge. If you overfill you will need to pump out the bilge.

The **WATER PRESSURE** switch is located on the electrical panel. Please switch this **OFF** when motoring or sailing. The water pump could burn out should one of the tanks run dry. You may not hear the

pump running over the sound of motoring or sailing. The foot pump on the forward side of the galley sink cabinet supplies fresh water to the small faucet located on the aft side of the sinks.