

WELCOME ABOARD *Spiritus* !

We are happy to welcome you aboard Spiritus, our 2023 Jeanneau Sun Odyssey 440. We have chartered a lot of sailboats around the world and have used our experience to outfit Spiritus with convenience and comfort for your journey to be as pleasurable as possible.

One of the best sailings days of our life was on a 440 during a photo shoot for the Jeanneau Dealership in Seattle, which prompted us to want to own one. The photo on the starboard side salon exterior aft head wall was taken of this glorious day. Onboard a Jeanneau 440, there are sure to be many glorious days!

Along with being a great sailing boat, she is extremely comfortable to spend time onboard with friends and family. Enjoy some of the niceties like the connectivity system for internet connection via 5G or WiFi which works really well if you would like to stay connected. Enjoy the 110v TV when on shore power or inverter off the grid and stream (limited to 25 GB per charter) to the Smart TV (limited to 25 GB per charter). View photos and video of your day by plugging a USB into the TV "brick" or connect your device directly to the Smart TV and enjoy a movie.

The deluxe salon table is great for sitting around in folded mode or playing a game and dining in open mode. The cockpit is ideal for sailing, spreading out and lounging with a unique convertible day bed! And finally, the swing out BBQ allows for great meals created from the swim platform with friends and family.

Although we are animal lovers, we want to keep Spiritus allergy friendly for all future guests, please no pets onboard. And please no smoking anything on board. Thank you for your cooperation with this.

We want to make sure our guests have the best experience they can and welcome any feedback, tips, etc. to improve the boat or these notes. Call or text Lisa Krier at 206-719-0099 or email: lisakrier@comcast.net.

We look forward to hearing all about your adventures aboard *Spiritus*!

Spiritus features include:

- 3 cabin / 2 head layout sleeps 6 in 3x true rectangular queen-sized cabins and 2 more on the convertible salon table on easy to use retractable pedestals.
- Awesome forward stateroom with double doors opening to a centerline queen berth; ensuite head and separated shower; great closet and underbed storage.
- Two comfortable aft cabins include centerline queen-sized beds sharing a head/shower to starboard, which is also accessible directly from the starboard cabin or the main salon.
- Fresh water, electric flush toilets – no odor!
- 440aH AGM Batteries
- 2000W 12v to 110v Inverter
- Easy to handle with in-mast main furling and roller furling genoa.
- Power Harken Primary Winches - German Mainsheet, Genoa Sheets & Headsail furler led aft to 2 x helms
- All other lines led aft to 2 cabintop winches – Power Harken port side and Manual starboard or turning bit

- Retractable Bow-thruster to make docking easy and no cavitation while sailing.
- Electric windlass with up/ down hand control at bow, remote with chain-counter at helm station.
- 2 Raymarine chartplotters (1 each helm) integrated with all navigation electronics including Radar & AIS.
- Spacious cockpit with ample seating for all aboard around dropleaf table on center console.
- Convertible “Fold- Out” starboard side cockpit lounging daybed – very relaxing!
- Outfitted for charter guests to have a relaxing, fun-filled sailing vacation with family and friends:
 - Galley equipped for gourmet cooking (two burner stove, oven, broiler, fridge, and freezer).
 - Pop up/retractable microwave
 - Cockpit cushions with seatbacks + Convertible cockpit lounge with filler cushion!
 - Iverson Design Dodger, Bimini & Connector for sun protection and to keep you dry on wet days.
 - Bose sound system with Fusion. AM/FM radio, cockpit speakers, and audio controls displayed on chart plotter with AUX input for device/Bluetooth.
 - Connectivity system – Internet connection through 5G/ WiFi with onboard router. Use for staying connected to friends and family, streaming to the smart TV or occasional work if it must be done during your sailing vacation.
 - Smart TV with “brick” to connect your devices in an easy manner wireless or by USB.

For a good walk through of the interior and systems on a Jeanneau 440 see below YouTube video. Note some options on the video may not be onboard “*Spiritus*” such as a generator/ air conditioning.

<https://www.youtube.com/watch?v=MI3FKXKoFuE&list=PLDqL1qVQh5eH3WDTSZFjxnWYnG3EAbc94&index=1>

Happy sailing!

Lisa & Dan Krier

NOTES FROM GUESTS FOR NEXT REVISION

We'd appreciate your feedback, thoughts, any corrections or questions listed here to improve the Notes.

TABLE OF CONTENTS

1. VESSEL SPECIFICATIONS..... 4

2. EMERGENCY/SAFETY EQUIPMENT (SEE RED ITEMS IN INVENTORY) 5

3. TIPS & TRICKS FOR SPIRITUS..... 8

4. ANCHORS AND WINDLASS..... 10

5. DOCKING AND BOW THRUSTER..... 13

6. BARBECUE..... 14

7. BATTERIES & CHARGER/INVERTER 15

8. ELECTRICAL PANELS..... 18

9. DECK FILLS/PUMP OUTS 19

10. BERTHS 19

11. BILGE PUMPS..... 20

12. DINGHY AND OUTBOARD 21

13. DODGER & BIMINI 23

14. ENGINE AND OPERATING UNDER POWER..... 23

15. FUSION STEREO/RADIO 26

16. CONNECTIVITY SYSTEM..... 26

17. SMART TV..... 27

18. FUEL TANKS AND SYSTEM..... 27

19. GALLEY..... 28

20. HEADS AND HOLDING TANKS 31

21. HEATER..... 33

22. INSTRUMENTS 34

23. VHF RADIO..... 36

24. SAILS AND RIGGING..... 37

25. SHOWERS AND SUMP..... 40

26. STERN PLATFORM..... 41

27. WATER..... 41

28. WINCHES 43

29. COCKPIT CUSHIONS & CONVERTIBLE COCKPIT.....43

1. VESSEL SPECIFICATIONS

<i>Model</i>	Sun Odyssey 440	<i>Year</i>	2023
<i>Overall Length w Bowsprit</i>	43' 11" / 13.39 m	<i>Hull Length</i>	42' 7" / 13.00 m
<i>Waterline Length</i>	39' 4" / 12.0 m	<i>Draft</i>	7' 2" / 2.20 m
<i>Beam</i>	14'0" / 4.29 m	<i>Mast height above WL</i>	60' 6" / 18.46 m
<i>Displacement</i>	18,874 lbs. (dry)	<i>Sail area (main + genoa) ft²</i>	379 + 489 = 868 ft ²
<i>Engine</i>	Yanmar 4JH57CR	<i>Number of cabins</i>	3
<i>Cruising Speed (motor)</i>	7kts @ 2800rpm	<i>Number of heads</i>	2
<i>Fuel Tank</i>	53 gal / 200 L	<i>Permanent Berths:</i>	6 – sleeps 2 ea.cabin
<i>Fuel consumption</i>	1.4GPH @2500rpm	<i>Add. Convertible Berths:</i>	1 – sleeps 2
<i>Fresh Water Tankage</i>	140 gal / 530 L	<i>Berth Mattress sizes (all)</i>	Queen
<i>Hot Water</i>	11 gal / 40 L	<i>Headroom</i>	6' 5"
<i>Holding tanks</i>	13 gal fwd, 13 gal aft	<i>AC Inverter</i>	2KW
<i>Fridge Capacity</i>	34 gal / 130 L	<i>Hull ID#</i>	IRISU371G223
<i>Freezer Capacity</i>	26 gal / 100 L	<i>MMSI No. (AIS Identification)</i>	368307280
<i>Domestic Battery Capacity</i>	540Ah AGM	<i>USCG</i>	1332585
<i>FRN</i>	0033	<i>FCC Call Sign</i>	WDN7312

A Jeanneau 440 performance cruising sailboat is a very complex machine. Although there are elements of commonality between all sailboats, a myriad of specific choices go into the construction and equipment of any particular boat. Whether you're an experienced sailor or newer to the game, you'll benefit from taking some time to read these notes ahead of your charter if you can. Once underway the chances of a calm moment for studying up on features making your trip more enjoyable and fun would be time spent reading rather than enjoying life onboard Spiritus!

Thank You for taking the time to read these notes!

Two symbols appear throughout this guide:



Indicates a safety-related hint or caution.



Describes a helpful hint or boat quirk.

2. EMERGENCY/SAFETY EQUIPMENT

Fire

Fire Extinguishers - There are 4 x ABC rated fire extinguishers onboard. They are located:

- (a) Under the Nav Station inboard side
- (b) starboard cabin locker, inside door on aft wall
- (c) port cabin locker, inside door on aft wall
- (d) forward cabin locker, inside door on fwd wall

Fire Blanket – There is a fire blanket located under the stove inside the compartment accessed by the door folding downward just to the right. It is a red case labeled “Fire Blanket”

If you have a fire at the stove turn off the gas solenoid switch at the aft edge of the galley. This will kill the propane coming to the stove and allow you to put out the fire with the fire blanket or extinguisher if needed. If there is a fire in the engine room do NOT open the staircase access nor the aft cabin side door access as it will introduce a tremendous amount of oxygen to the fire. Instead, use the fire extinguisher located in the aft port cabin hanging locker, pull out the round black plug on the inboard wall of the cabin that shares the wall with the engine room and shoot the fire extinguisher thru the hole holding it as close to the hole as possible.

Help to prevent fires by turning the propane solenoid switch to off when not using the stove and turning the propane tank itself off while not in use. Refrain from having open flames below, in the cockpit and on deck. There are outdoor LED courtesy lights in the cockpit and an LED table light. In addition, we have provided 2 solar lanterns, AAA battery outdoor lighting on the dodger aft handrail and several 12v candles for use in the cockpit or below in safety for night ambiance.

Hitting a Log or Running Aground - In case of a log hit or running aground, immediately check for leaks in the bilge and see if the bilge sump pocket is filling with water. Next, check for cracks in the fore and aft sections of the bilge particularly at the stringers where the keel attaches to the hull and check all keel bolts. Check the rudder posts (2) in the event of a log strike or backing into something with a rudder. Once you are sure no water is entering the hull contact **San Juan Sailing at 800-677-7245** and proceed to the nearest harbor to have a professional diver check the hull, keel, prop, prop shaft and rudders. Report any and all groundings or log strikes to San Juan Sailing regardless of the severity. Normally nothing is broken and the boat will be fine but we would like to log any and all incidents and have the San Juan Sailing diver double check back at the base at the end of your vacation.

Leaks – It is rare that a vessel will just start to leak but if there is a leak make sure the automatic bilge pump is always left in the “on/ auto mode” indicated by a red backlight on the bilge pump icon on the 12v panel. The switch on the panel is a 3 position switch, when you see the white background it is “off” completely. Touch the switch once and it goes to red backlight (on/ auto mode), touch it again and it goes to the “on/ manual override mode” indicated by a red light in the lower left corner of the bilge pump icon and the green “on” light in the lower right of the icon. Note the green “on” light will also come on if the bilge pump in its “on/ auto mode” setting and senses water in the bilge and automatically comes on. If there is a leak, check to

ensure the automatic bilge pump is running, you will hear the pump running and there will be a green light on the bilge pump icon on the 12v panel.

Depending on the severity of the leak, use the hand bilge pump located in the aft port corner of the cockpit in addition to the auto bilge pump to stay ahead of incoming water until you can get it temporarily repaired. To use the manual bilge pump, lift up the access plate and insert the handle found on the underside of the port side aft propane seat locker inboard side. Both the auto & manual pump intakes are located under the salon sole about 2 feet aft of the mast compression post in the sump pocket. There is a small access plate above the "sump pocket" to visually check.

If you need to raise the larger salon floorboard the long fwd athwartship galley floorboard needs to be removed first and then carefully lift the large salon floorboard being careful not to scratch the base of the galley cupboards. The board needs to lift inward first before coming up in order to prevent scratching the galley cabinetry.

Once things are stabilized, work to determine the source of the water. Check the dripless prop shaft seal located in the aft port cabin inboard side of the bunk flat. Check the thru hulls, there is a diagram showing the location of the thru hulls in the notebook. There are wood plugs zip tied to each of the lines above the through hulls and a rubber mallet under the nav station seat should you need it.

Other sources of leaks could be:

- Fresh water system
- Engine exhaust system – cooling water side
- Rainwater leaks – these are rare but if you have a window or port leaking please let us know.

Check freshwater system - If the freshwater pump is on and running (you will hear the pump at the forward port side settee area and will see the green "on" light in the lower left of the FW Pump Icon at the 12v panel), then a tap is open or maybe a leak in one of the lines or line fittings.

Check engine - raw water-cooling system and engine exhaust system. The engine uses sea water to cool with an inlet in the fwd port side of the engine compartment. This sea water then moves up and aft to the sea strainer in the upper aft port corner of engine compartment and on to the impeller on the engines lower left side before going into the heat exchanger. Check this raw water intake system for leaks. On the aft upper port side of the engine is the water exhaust system where there is a mixing elbow off the back side of the heat exchanger that mixes warm water and exhaust. This then passes through a water muffler (grey plastic box forward of the dripless shaft seal) then exits through a large diameter hose at the aft port hip of boat. Check this engine water / exhaust system for leaks.

Steering Failure - If the steering system fails there are 2 backup systems as follows:

- Autopilot
- Emergency Tiller

The auto pilot drives the port side rudder quadrant directly. You can see the RAM at the fwd outboard side of the aft port under cockpit locker. A tie rod connects the port and starboard rudders, so they work in unison. If the manual steering from the steering wheels fails, use the auto pilot to steer the boat up until you get into a tight quarter maneuvering situation like docking or anchoring.

When in a tight quarter maneuvering situation disengage the auto pilot and manually steer using the emergency tiller until tied up. Insert the emergency tiller with the short tiller arm facing aft. Never try to steer with the emergency tiller if auto pilot is engaged. Auto pilot must be in standby mode when manually steering with either the wheels or emergency steering. You will want to reduce sail or power down when using this tiller since the rudders are large and the tiller is small and it is a bit of load at higher speeds. The hydraulic Autopilot RAM is much better at handling load.

The emergency tiller is located at the bottom of the port under cockpit locker with short L-side up between wood upright and transom and long fork side onto a clip. It fits on either of the 2 rudder post which is accessed through the "Jessa" caps in the helm floor. The caps can be removed with a winch handle but be careful not to scratch the black aluminum caps. The emergency tiller should only be used in tight quarter maneuvering situations i.e. Docking, anchoring, mooring.

Secondary Anchor - Located in the port aft under cockpit locker, outboard to port with 2 securing clips at the top of the slide. It is a complete secondary anchor setup with 50' of 3/8" BBB chain and 150' of 3 strand nylon rode in the white milkcrate located on the inboard side of this same locker. To use the anchor attach the 21lb Fortress Anchor to the end of the chain using the provided shackle and tighten with a wrench or pair of pliers. When done, please stow the anchor and chain/ rode package the way you found it. Note the primary anchor uses 5/16" HT chain thus the gypsy chainwheel on the windlass IS NOT compatible with the secondary anchor. If one were to use the Secondary anchor on the windlass the gypsy would need to be changed. The 3/8" BBB gypsy is located next to the white milkcrate in a cardboard box

Emergency Equipment - Flares, Emergency Strobe, airhorn(spare), and manual horn are under the nav seat at the chart table. There is also an airhorn in the aft compartment of the cockpit table for quick use if you should need it. Please keep this airhorn in the cockpit table for future guests.

Crew Overboard — Throw orange type IV throwable with or without attached strobe 1st, hit the MOB button on the chart plotter so you will know where they are. Then use one of the procedures discussed in the skipper's meeting to get back to the person. We keep the Life-Sling mounted on the starboard side stern rail. The Lifesling is an ideal tool to get the person to the tailgate in the down position.

Tools - There is a well-stocked duffel of tools located under the navigation station seat cushion. There is also a West Marine tool kit in the aft port hanging locker at the base of the locker

3. TIPS & TRICKS FOR SPIRITUS

Being a recently commissioned, brand new boat, we have tried our best to work out any problems prior to your charter. If you find anything during your charter please let us know to help improve the experience for future guests.

Twin Rudders - Twin rudder boats behave significantly differently from single-rudder boats when maneuvering under engine. It can take some practice to get used to. The main reason for the difference is that the rudders are not in-line behind the prop. Revving the engine in forward with a turned rudder when the boat is stopped does give a "kick" nor does it establish flow on the rudders until the boat starts moving.

There is a technique for tight quarter maneuvering where you put throttle on with turned rudders for a few seconds and then backdown slowly. This will get the boat to start to spin. If you do this turning to starboard prop walk significantly helps the pivoting and tight turning of the boat.

There is a "lag" between revving the engine and feeling the effect of the rudders beginning to work. This lag can be disconcerting at times (truly nothing happens to the steering for a few seconds as you rev the engine). In practice, this means you should not stop during the approach because without motion you'll lose steering control, and it will take more time to gain it back than in a single-rudder boat.

To correct for this, we suggest that you approach a little "livelier" than on a single-rudder boat and take the speed off when you are closer to the dock. Spiritus has a right hand screw thus in reverse she walks to port. Use this to your advantage when you stop the vessel or back but know it will work against you when trying to get the stern to starboard.

Note, Spiritus will pivot swiftly around her keel. When approaching a dock in the forward motion you should approach at a 45 degree angle and "pivot: the stern onto the dock.

Bow Thruster - The Bow Thruster is there to help in low-speed maneuvering situations. The engine must be running before the bow thruster can be started/engaged.

Press both "ON buttons" together to enable the bow thruster. The Thruster ready light will go solid green to indicate it's deployed/lowered.



The thruster will timeout and power-down in roughly 5 minutes if unused, this can be an issue when coming into dock.

Turning off the engine before the thruster has been powered OFF will result in staying in the lowered/deployed position. It's best to power OFF the thruster before the engine, but if this happens, start the engine again and it will reset to closed.

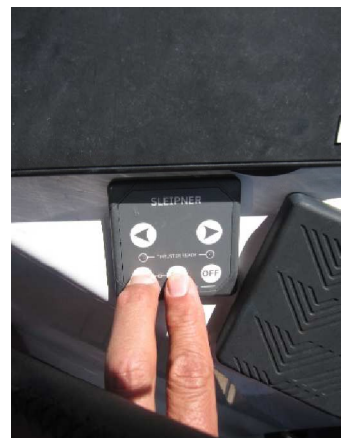
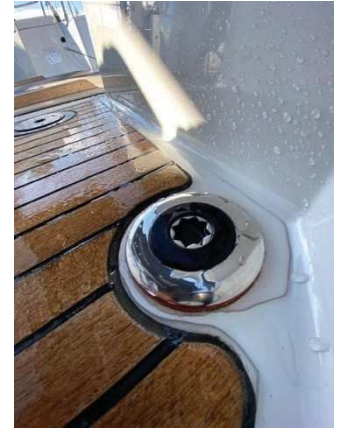


FIGURE 1 - ENGAGING BOW THRUSTER

Deck Fuel Fill Cap - The Fuel Fill Cap is located on the port helm cockpit sole, near the scupper, which is a low point designed to drain water from the deck and the cockpit. As such, standing water might be present when opening the cap and it's not a good idea to allow water into the diesel fuel. It's therefore important to both:

- Sponge-dry the area prior to opening. A FUELING USE sponge is in propane tank locker, for this purpose.
- Ensure the cap is put back on nice and snug but not over tightened as it will break – it is plastic and there are spares onboard in the event it does break. Please inspect the seal at this time for any visible damage which might prevent a water-tight seal.
- The fuel cap is labeled fuel and also has a red inlet under the cap. Never put water into the this fill by mistake. **Red means caution, fuel only!**



BATTERY MONITOR

The house (domestic) battery system is a 540 aH AGM bank. As such, discharge below 40% is not good. To check the status of the batteries. Go to the Navicolor display located outboard of the chart table. Press the battery Icon in the lower right and touch the battery bank you wish to monitor. Note there are 3 battery banks. House, engine start, bow thruster. The house bank monitor also shows amperage draw. We try to draw under 10 amps if on the hook and as such only need to run the engine at most once per day to recharge. If you are pulling more than 10 amps while at anchor you may need to run the engine twice per day, once in the morning and once at night. There is a 125 amp high output alternator that when engine RPMs are at 1200-1300 will charge at a +85 amp rate.

There is an inverter switch located at the outboard side of the nav station to turn the inverter on/off. We recommend that you use the inverter on demand only as it will be a big amp draw. If the amperage draw is large, start the engine and charge the batteries at 1200-1300 RPM while running the inverter. Remember to turn the inverter off when not in use. It will cause a draw on the amperage if still engaged.

Dual rudders + Kelp/Weed - Seaweed will get stuck on the shaft in the gap between rudders and hull and come sometimes not be easy to remove.

We will first try backing down to free the weed and if that fails, lower the swim platform to clear larger bits by hand. Boat hook can help a bit but can cause damage as well so be careful if you are using the boathook. Clearing by hand while moving can be cold and challenging. It is better to stop the boat if under power and clear the weed. Best to have a lifejacket on as well when doing this.

4. ANCHORS AND WINDLASS


Spiritus is equipped with two anchors, one forward (44lb Delta with 300 feet of 5/16" Hight Test chain) and a 21lb Fortress in the port under cockpit locker along with 50' of chain and 150' of rode.

The primary chain is marked every 25 feet and there are two marks in a row at 100 and 200 ft.

There is a chain counter at the starboard helm which also provides control of the windlass. due to the plumb bow we never lower the anchor from the deck using the cockpit remote as it can swing and cause damage to the stem of the boat. We recommend lowering the anchor using the hand dongle at the anchor locker with impulses on the down button to control the swing. Once the anchor is in the water and away from the bow, we then use the cockpit remote. Never use the two at the same time. When using the cockpit remote always stow the hand dongle in its cradle and be sure the anchor locker area is clear. When retrieving the anchor use the cockpit remote up until 10 feet remaining, then go forward and use the hand dongle at the anchor locker. On the final approach be sure the shank of the anchorage is coming up in the correct manner. If it is not, use a boat hook to swivel the anchorage into the correct position. Use impulses on the up button to control the swing and carefully bring the anchor to the up and in / cradled position. Tie the black safety leash onto the shank when finished and cleat to the forward starboard cleat and release a little tension from the windlass with the hand dongle. The safety leash should take the load when the anchor is not in use.

Lowering the anchor out using the helm controller can be done to track chain-length, ideally with someone on the bow to monitor. Be sure the bow person is clear of the windlass and if there are any chain jams, the bow person should let the helm station operator know.

The scope used in the islands when there are a lot of boats around is 4:1. It is not always easy to get a 7:1 scope but if conditions call for it (i.e. sustained winds over 25 knots or wind waves etc.) find a place to anchor that allows for this. If you can get more than 4:1 it is ideal however, in crowded anchorages in the peak season it may not be feasible. If anchoring with only 4:1 scope be sure you are in an anchorage that is well protected and be sure to you are clear of nearby anchored vessels when you and they swing. After you have paid out the suitable amount of chain, pause and wait 1-2 minutes at idle on the engine to see if your bearings are changing. If things look good, put a bit of reverse on to test the stability and set the anchor for the night checking your bearings as you are putting reverse on. If you are not set, retrieve the anchor and repeat the process.

 **Easy formula for setting scope; add the water depth on sounder, plus any tide increase expected during the night, plus 6' (to account for the distance from sounder to roller on bow) and take that total and multiply by 4 (example would be 25' of water + 6' of tide increase + 6' = 37' x 4 = 148').**

The electric anchor windlass receives power from the engine battery.

The circuit breaker for the windlass is located behind the companionway steps in the port quarter berth.

Please note the windlass will not run without the engine running. We always have the engine running when using the windlass.

The hand dogle remote control for the windlass is secured inside the anchor locker. After setting the anchor, be sure to take the tension off the windlass by attaching the snubber to the chain and a cleat (not the windlass), and then running out more chain until the chain on the drum is slack.

LOWERING THE ANCHOR:

- a. Engine must be on
- b. Turn on the circuit breaker for the windlass (port aft berth).
- c. Unshackle the anchor retention line (safety leash) holding the anchor in place
- d. Lower the anchor with impulses until in the water and past the plumb bow
- e. Continue to lower the anchor from either the hand dogle or cockpit remote until desired chain is paid out.
- f. Secure the chain with the snubber and run out enough chain to take the load off the windlass.

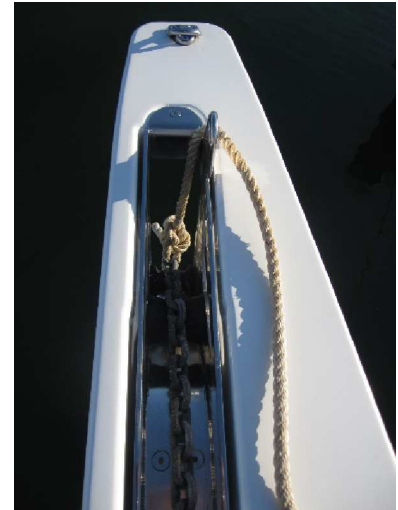


DO NOT LEAVE THE LOAD ON THE WINDLASS DRUM.

- g. Set the anchor by reversing at ~1200 RPM for 1-2 minutes and checking your bearings.
DO NOT go above 1500 RPM.
- h. For the first 30 min or so check to be sure you are set and turn on the LED anchor light before nightfall.

RAISING THE ANCHOR:

- a. Start the engine.
- b. Check to be sure the circuit breaker for the windlass is on.
- c. Take in enough chain to retrieve the snubber.
- d. Use a careful combination of engine power with the windlass to retrieve the anchor.
If the anchor is really stuck in the mud, you will hear the windlass slow under the load. Immediately stop the windlass and drive the boat forward to free the anchor.
- e. With the bucket in the aft port under cockpit locker, wash the anchor and chain as it is retrieved to keep the boat and anchor locker clean.
- f. Incoming chain can pile up against in the chain locker. Use a boat hook and push the pile of chain forward every 20-30 feet of chain. Also be aware the lines used to mark the chain length can catch in the outlet of the windlass and may cause a jam. Just run the windlass back out for a second to clear.
- g. **Once the anchor is out of the water, please bring onto the boat carefully by impulsing the up button on the hand dogle.** Slowly pull the anchor up onto the rollers using the the windlass, making sure it doesn't swing into the bow.
- h. **Be sure the anchor is running up with the shank in the correct position and if not rotate with a boat hook.**
- i. Secure the anchor by hooking the black anchor safety leash onto the chain and securing the other end to the port cleat (the chain over the drum should not be the only thing keeping the anchor onboard)



"SNUBBER" READY – hook on chain outside of roller, keep tension on lowering



SWITCH THE WINDLASS BREAKER "OFF" TO PREVENT DRAINING THE START BATTERY.

SECONDARY ANCHOR STORAGE

Located in under the aft port side cockpit locker outboard to port on a slide above the Autopilot. There is a milkcrate on the inboard forward side of this crate with a shackle on the end of the 50' of chain and 150' of 3 strand nylon rode . There is also a spare snubber atop this milkcrate. If you need to use the Secondary Anchor carefully remove it from the port outboard slide by lifting up and clearing the bars of the clips making sure the mud flaps are out of the wood slot receiver. The Anchor is a 21lb Fortress and must be married to the chain with the shackle located at the end of the chain. Be sure to tighten with a wrench or pliers and you may want to put SS seizing wire on (in the tool bag under nav seat).

STERN TIES:

There are times when adding a stern tie to shore around a tree or rock will be needed in very deep anchorages, especially in Desolation Sound and north. Spiritus is equipped with **500' of floating line on a spool** for stern tying. It is stored in the aft starboard side cockpit seat locker. The line has a PVC rod that ties across the lower tailgate lifeline to reel off and reel back on. When recovered , the line is usually very wet, so we leave the spool on the lifeline for a while until dry before stowing back in the locker.



5. DOCKING AND BOW THRUSTER

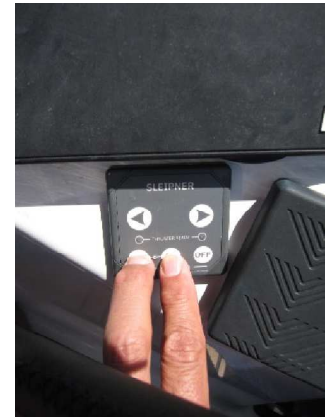
DOCKING FENDERS AND LINES



The exhaust vent for the heating system is located on the aft starboard stern quarter of the boat and gets very hot. It is easily identified as a stainless-steel exhaust port labeled Webasto. Please be aware this a common location for placement of a starboard stern fender when at the dock or rafted with another vessel. Please check to ensure the stern fenders are not contacting the exhaust port or they will melt and pose a fire risk. There is also a significant carbon monoxide risk to the boat occupants tied to the starboard side if using the Webasto system. We recommend the starboard side be tied on the outside of a raft arrangement to minimize this risk.

BOW THRUSTER

1. Engine **MUST** be on and we recommend running to keep batteries charged.
2. Activate the controller at the helm by simultaneously pressing the (2) ON buttons. The panel shows a flashing green light to indicate the thruster is lowering and then a solid yellow light to indicate that it is ready to use.
3. Use minimally, in short 5 second bursts. Continual use will overheat the thruster. It will shutdown after 5 minutes and need restarting from the panel.
4. Most of the vessel maneuvering should be done using the engine with water moving over the rudders (recognizing that prop “kick” in forward has no effect on a twin rudder boat as the ball of water goes through the 2 rudders and the boat lurches forward).
 - a. The thruster is meant to be used to get the bow moving in the desired direction when at very slow speeds or stopped, during your final approach into, or departing from the slip, or in emergency situations to keep from hitting another vessel or dock.
2. Keep the main engine running while using the thruster, to keep the battery in a good charge condition.
3. Power down the bow thruster before turning the engine off.



6. BARBECUE

The stainless-steel propane barbecue is mounted on a swing arm. There is a line plumbed from the main propane tanks inside the propane locker to the BBQ. However, you will need to turn the yellow valve located inside the propane locker have the long end pointing aft. Be sure the BBQ regulator is off when opening this valve or the tank valve itself as it will most likely drain the propane tank. The propane solenoid switch in the galley will also need to be “on” in order for gas to flow to the BBQ. The galley stove can be operated at the same time the BBQ is being used. Both are controlled by the same propane solenoid switch.

The swing arm is designed to have the grill swing from stowed position 90 degrees and be perpendicular to the transom. You stand on the tailgate in the tailgate down position to grill. In inclement weather, you can rotate the swing arm 180 degrees from the stowed position to be facing the cockpit but note the grill will be at a slight angle.

Ignite the grill by using the ignitor button located at the top inner part of the gas control. When done with the BBQ turn off the regulator valve, turn the yellow valve inside the propane locker to have the long arm “up”, turn off the propane solenoid and finally turn off the propane tank at the tank valve. Clean the BBQ after every use and use the black “magma” cover to cover the BBQ when not in use. There is a zipper that goes up to the regulator and a draw string on the bottom, make sure both are secure.



PLEASE LASH BBQ WHEN NOT IN USE



DO NOT RELY ON THE CONTROLLER AT THE BBQ AS THE ONLY SHUTOFF FOR THE PROPANE.

THE SOLENOID SWITCH IN THE GALLEY NEEDS TO BE ON TO RUN THE BBQ.

- The stainless-steel propane barbecue is mounted to swing arm rail on portside stern rail. Taking the safety line off the swing arm. Lower the tail gate. Swing the mount perpendicular to the transom. BBQ from the tailgate in the down position
- There is a line plumbed from the main propane tanks inside the port propane locker to the BBQ.
- There is a T-valve allowing both the galley stove and the BBQ to use the same propane tank. You will need to turn the valve to be in line with the BBQ line to use the BBQ.
- Be sure the BBQ controller is off when opening this valve or the tank valve; having it on will cause the safety system in the main tank to engage and severely limit the flow to the BBQ.

7. BATTERIES & CHARGER/INVERTER

Battery use management matters when it comes to cruising on boats. We're accustomed to infinite electricity from our utility service at home but when on a boat we must pay attention to our electrical consumption more closely.

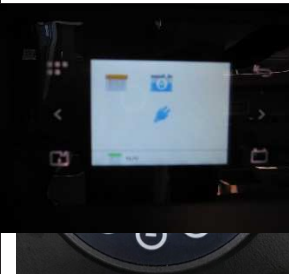
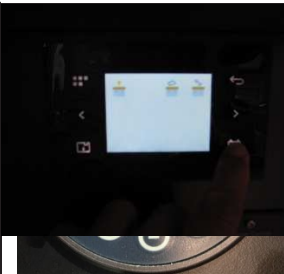
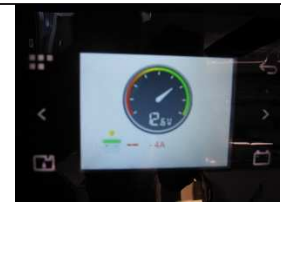
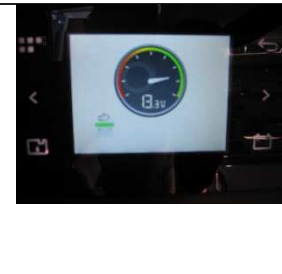
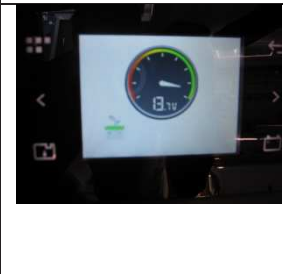
There are 7 total batteries onboard, 1 x 120 aH Engine start battery that can be isolated "off" and preserved for starting the engine, 4 x 110 aH AGM House Bank and 2 x AGM bow thruster batteries.

The **Engine start battery** is under the port aft cabin mattress along with the battery charger, isolator, backside of the battery switches and high load 12v breakers. Access is by lifting up the mattress and then lifting the wood lid at the forward part.

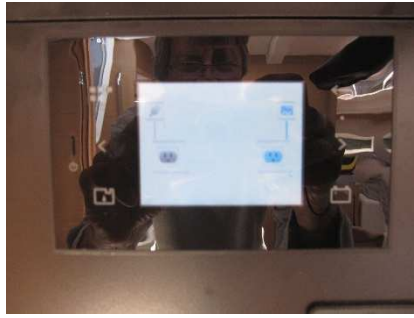
The house batteries are under the starboard aft mattress. Access is by lifting up the mattress and then lifting the wood lid at the forward part.

The bow thruster batteries are at the base of the sail locker, outboard sides and are accessed by removing the screws in the panels and lifting the panels up.

Battery Monitor – There is a battery monitor on the Navicolor panel. Touch the battery icon on the lower right corner of the black part of the panel or the battery icon on the white part of the main menu panel. Touch the battery bank icon (house, engine, thruster). There is an Amp Meter on the House Bank only that shows amps used as a red negative number or amps inputted when charging as a green positive number.

Main Menu Battery, Tank, 110v Power icons	Battery Menu Left to right: House, Eng, Thrust	House Battery: Voltage monitor Amp Meter	Engine Battery: Voltage monitor	Thruster Batteries: Voltage monitor
				

Inverter - Spiritus has a 2000W 12v to 110v inverter. The inverter itself is located under the bottom of the port side aft cabin hanging locker. There is a remote on/ off button at the Nav station as shown in the below photo. The red light indicates the inverter is "on". The inverter powers all 110v outlets onboard along with the retractable Microwave oven. The 110v hot water heater is NOT on the inverter, while off the grid make hot water by running the engine.



When the inverter is “on”, anything plugged into 110v outlets will draw amperage, including the microwave oven. When the inveter is “on” and you touch the blue electrical plug icon on the Navicolor display monitor you will see the right side blue dashed lines moving down to the blue lit outlet as shown in the above photo. This indicates 110v power is coming from the batteries through the inveter and to the 110v outlets and the microwave oven.

When you are plugged into shore power at a dock and you touch the blue electrical plug icon on the Navicolor display monitor you will see the left side blue dashed lines moving down to the blue lit outlet. This indicates 110v power is coming from shore power to the 110v outlets, the microwave oven and the hot water heater.



AGM batteries voltage will stay above 13V when charging and can be discharged 50% from full charge. It is rare you will achieve full charge so plan on 90% charge down to 50% charge thus you have 40% usable amps on the 525 aH House Bank. Approx. 210 aH useable before needing to be recharged. Reading the voltage off the Navicolor is the best way to monitor the batteries.

The electronics, fridge, freezer, and Webasto heating system (as well as anything using the inverter i.e. – 110v microwave) all have significant effect on the battery life. Ideally get the fridge and freezer down to temp while on shore power or while motoring/ running the engine. Its more efficient to have a cold frig/freezer and maintain the cold under battery power. Be cautious when using the inverter, especially when using the microwave or other high AMP appliances. We highly suggest you use the inverter on demand meaning only when you need 110v power and when using 110v power “off the grid” think about running the engine to keep the batteries topped off while pulling larger loads with the inverter. The Samsung Picture TV has fairly low amp draw however, when not in use, be sure to turn it off (we do not use the picture/ art feature for this reason). We typically turn the heating system off at night after closing hatches and getting the boat warm.

ENGINE / ALTERNATOR CHARGING

Spiritus has an upgraded 125A alternator for faster charging of the house batteries when the engine is running. Depending on the battery voltage level, the alternator can charge at a rate of 125 amps which can be seen as a positive number on the Navicolor display on the house bank. This means if for example the house battery bank is at 70%, it will recharge in approximately 1.5 hours of run time.

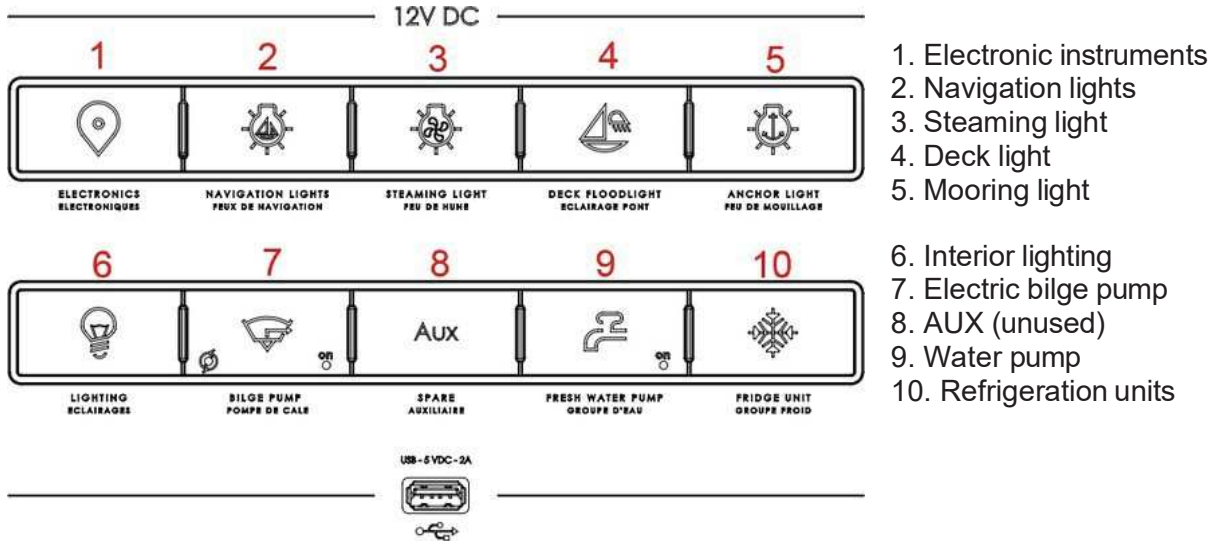
BATTERY ALARMS

There are no battery alarms. Battery monitoring is done visually done from the Navicolor display monitor in visual mode only. When the house bank discharges to 11.1v or less there will be an alarm that sounds and a yellow “explanation point” icon will flash indicating the house bank needs to be recharged.

Turn off the engine start battery when the engine is not running. When the engine is running or when plugged into shore power, both the engine and house bank switches should be on. Be sure battery charger breaker is also on.

If running the engine only for charging purposes, in order to get the 125 amp alternator to excite and charge properly, push in the red button on the throttle arm to disengage the gear-select and bring the engine up to 1300 - 1500 RPMs. When charging at this RPM you should see a green positive number on the Amp Meter in the range of 125amp down to 75 amps. This is a good rate of charge for the house bank, if it falls below 60 amps you may need to increase the RPM.

8. ELECTRICAL PANELS



The 10 touch keys switch on/ off the desired DC elements via relays.

CABIN OUTLETS AND LIGHTING

There are 2 USB outlets (DC power) in each stateroom one at the main electrical panel, and 2 under the nav table. All but the electrical panel USB's have a green light indicating they are on and drawing 12v power.

There is one round socket type 12v outlets located in the aft end of the cockpit table. It is protected by a 5 amp Fuse, please keep 12v loads to 5 amp or less

There are AC outlets (shore power/inverter) one in each of the cabins, in the galley, under the chart table, in the aft starboard corner of the saloon, under the fwd outboard starboard side shelf of the salon where the TV control box is located, and in each stateroom.

There is direct and indirect LED lighting in the saloon switches near the nav table / galley island just as you come down the companionway and on the ceiling in front of the compression post (2 way switch for salon lights)

LED lighting is also in each of the staterooms and heads

switches just inside each stateroom and a small round button just below the sink in each head, backlit blue.

9. DECK FILLS/PUMP OUTS

Deck Fills are color coded with a color ring between the deck cap and the deck and accessed with the Cap key, which is in a cubby at the Nav Station.

If the cap is too tight and the plastic key is flexing too much, use a winch handle to carefully open the cap.

Red - Diesel Fuel (Port Side Helm Sole)

Blue - Fresh Water x 2 (Starboard Side Helm Seat deck sole, and Starboard Side deck forward of mast.)

Black - Black Water Waste (sewage) x 2 (Starboard Side deck amidship behind mast and port side deck amidship.)

10. BERTHS

Spiritus sleeps six comfortably on true rectangular queen berths and an additional 2 in salon cozy on an easy to convert settee. Berths include: Queen for 2 in the private cabin forward, Queen for 2 in each of the aft cabins and Double for 2 cozy in the main salon. Each of the berths has a memory foam topper for extra comfort and a Hyper vent condensation prevention mat under the aft cabin mattresses with mattress battens under the forward cabin berth.

To **LOWER the Settee** to convert to a berth start by opening up the top 2 handle levers on the telescoping table legs. From there pull the stainless bars fore and aft (4 total) so they are fully extended and then open the table top leaves. Face the centerline of the boat with your back to the table and gently sit atop the table until the telescoping legs are compressed and once confirmed they are compressed close the top 2 handle levers. Next, open the bottom 2 handle levers and repeat the process but note the table top should not go to the level of the settee bench seat wood tops, it should set just above the wood tops of the bench seats. Once the table top is down and the bottom 2 handle levers are closed take the center aft seatback cushion and remove it and place it atop the table. Adjust the table top using the bottom 2 lever handles so the filler backrest cushion is at the same level as the settee seat cushions.

To **RAISE the Settee** remove the seatback filler cushion and place back as a seatback. Gently sit atop the table and open the bottom 2 handle levers and ease the table up by gently sitting up. Repeat this step for the top 2 handle levers until the table at the desired height for dining or playing games etc.

Note, NEVER adjust the handle levers, you need only open and close them. Our maintenance pro has set them and if there is an issue please let us know.



When using the table top leaves ALWAYS extend the stainless steel arms (4 total) fore and aft before opening the table top. Failure to do so will damage the hinges and/ or the table.



11. BILGE PUMPS

The 12v bilge pump has a switch at the Nav Panel with 3 positions – Off / On Float Mode / On Manual Mode. Turning the switch to On Float Mode, simply touch it one time and look for the red backlight to come on. To switch to On Manual Override Mode touch the switch again and listen at the bilge. Touch the switch one more time and the bilge pump will go to OFF white backlit or no backlit mode.



Note – the 12v Bilge Pump switch should always be left in ON FLOAT MODE with the Domestic (House) Battery Switch and Black Ground Switch in the ON position. The Battery Switches are located in the aft port cabin

12. DINGHY AND OUTBOARD

The Dinghy is a 9'6" AB 9.5 AL aluminum bottom dinghy with a 2.3 hp Honda OB Engine. The dinghy holds 5 adults and the outboard is easy to operate. The dinghy has a towing bridle that should be used when towing for with a single tow line the dinghy will "swim" from left to right often times violently. There is a carabiner on the short floating yellow line that clips to the aluminum welded towing eye on the hull of the dinghy. The 2 orange straps have carabiners that clip onto the d-rings that are glued onto the dinghy tubes forward outboard under side.

The long yellow floating line has a carabiner that clips to the stainless steel hoop where the 2 orange bridle straps and short yellow floating line are tied. When not towing the dinghy you can take the bridle off and attached the long yellow tow line directly to the welded aluminum tow eye on the hull of the dinghy. This makes it easier to tie up to docks or to a log on the beach when using the dinghy.

The dinghy tows with the least drag if set on the back side of the 1st stern wave. Once you get underway and before building up too much speed, set the dinghy painter to the position you would like. Before starting the engine, be sure the floating painter is not under the boat. Before maneuvering in tight quarters bring the dingy tighter to the transom or side tie the dinghy at a midship cleat. This guarantees that you will not accidentally wrap the painter around the propeller when you back up!

We appreciate your special care when beaching the dinghy. Beaches in the San Juan's are seldom gentle, sandy beaches; often they are rocky and covered by barnacles equipped with extra sharp rubber cutters.

The Honda outboard has a four-stroke engine and is air cooled, no water will come out. It uses straight gasoline off an internal tank. San Juan Sailing will be sure you have both the internal tank and a full red plastic gas can aboard. The red plastic gas can is stowed in the starboard aft cockpit sole locker along with the spare propane tank. This is the only locker where the gas fumes will not get into the boat.

Please do not cruise with the outboard on the dinghy as a large wake or gust of wind can overturn the dinghy. The OB is light and easy to transfer from the stern rail mount to the dinghy transom (and vice versa) by hand. When moving the OB Engine to the dinghy or back to the stern rail mount we suggest using a safety line tied to the lower stern rail and the forward handle of the Honda 2.3 OB

Starting the Outboard

1. Push the fuel valve lever (starboard aft corner of the outboard) aft to open.
2. Pull out the choke switch (starboard forward corner of the outboard).
3. Open the air vent on the top of the fuel cap by turning counterclockwise.
4. Make sure the black U-shaped kill clip (with the red lanyard) is clipped into the red shut-off knob (port forward corner of the outboard).
5. Turn the handle throttle counterclockwise to "start".
6. Pull the cord until it starts (you should not have to pull it more than 5 times).
7. 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.

Stopping the Outboard

1. Shut the outboard off by pushing in the red shut-off knob (where the kill clip is clipped in). Or just pull the red 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 and stays in place.
3. To put the outboard shaft back in the water, release the stainless-steel lever on the starboard side of the shaft.
4. Put the outboard back on the outboard mount on the stern rail and tighten both braces.
5. Push the fuel valve lever forward to close and close the air vent on top of the fuel cap.

Dinghy - Outboard Troubleshooting



If the engine will not start, review start steps 1-6 above to make sure you have done all 6 steps. If the outboard is running and you are heading toward shore, and the engine suddenly quits, it is usually that someone has forgotten to vent the fuel cap.

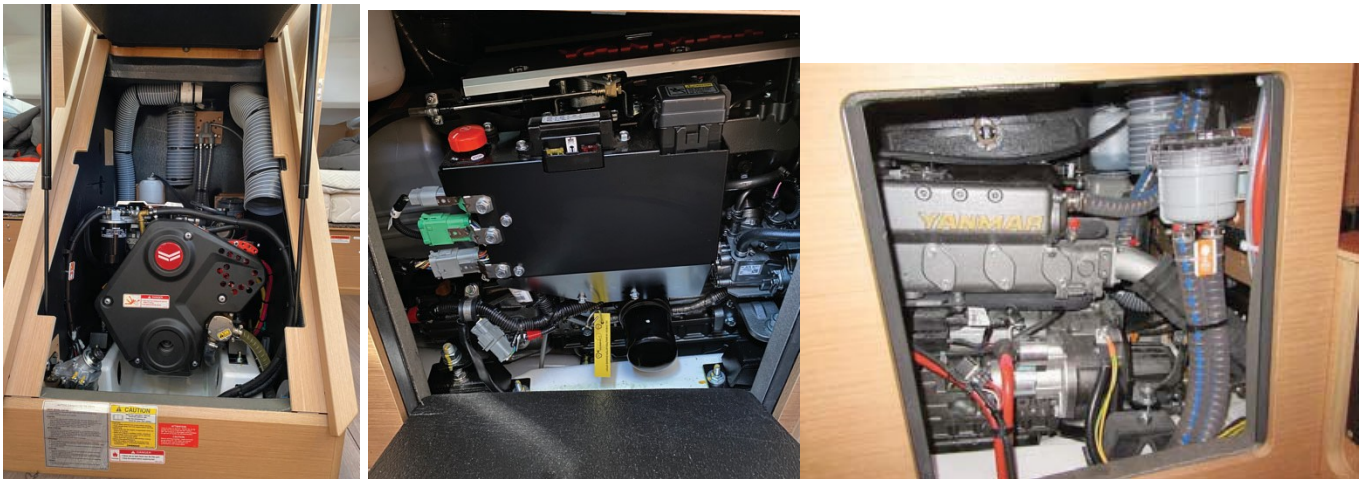


13. DODGER & BIMINI

Please be gentle with the Dodger, Bimini & Connector panel. The Dodger glass is Makrolon that allows for a clear view out but it is an acrylic and can be scratched if not maintained properly. If the glass becomes spotted with salt, please get a pot of fresh water from the galley sink and "flood" the salt crystals off the plastic. Only use a soft rag or shammy found in the port side cockpit seat locker if you wipe the dodger glass on either the inside or outside. The dodger has some very handy stainless steel side and back rails that make staying upright and onboard easier.

The Connector Panel that zips between the dodger and bimini can be removed by unzipping it. If you do remove it please roll and stow it. This goes for the window covers (3 for the dodger, 2 for the bimini) too, which are typically left on unless the Dodger and Bimini are in use. A good place to stow these covers is the port side cockpit seat locker. When putting the connector panel back on start at the dodger end and zip both sides from centerline outboard but do not zip over the corner crowns and do not snap the straps. Next go to the bimini end and start each zipper from centerline. If they will not reach, gently pull the bimini down and forward to get the zippers going and use the zippers as leverage to get all 4 (forward and aft port and starboard side zippers) full zipped over the corner crowns. When the zippers are full zipped snap the 4 straps at each of the corners of the Connector Panel

14. ENGINE AND OPERATING UNDER POWER



Cruising should be done at engine RPMs of 2200 to 2800. The following table gives approximate cruising information:

RPM's	Boat Speed	Fuel Consumption	Hours	Range
2200	7.0 Knots	Approx. 1.25 gal/hr	40h	224 Naut. Mi.
2500	7.5 Knots	Approx. 1.50 gal/hr	27h	202 Naut. Mi.
2800	8.0 Knots	Approx. 2.00 gal/hr	20h	160 Naut. Mi.

The ranges listed assume a 25% reserve in the 53 gal fuel tank (so 40 gal usable). We find pushing the

engine beyond 2800 RPM (or 8.0 - 8.5 knots) does little good as the boat reaches hull speed at about this point and adding more RPM gives a little more speed but generally the boat digs more of a hole and more fuel is burned.

There is a blower in the engine compartment which is vented in the transom walkway above the swim shower. **This blower runs continuously when the engine power is on and may sound a little loud.** It is designed to keep the temperature in the Engine room lower.

DAILY ENGINE CHECKS ARE ADVISED as follows:

1. Check Serpentine belt tightness when the Engine is OFF by reaching your fingers under the protective cover and pulling up on the belt. There should be no more than ½ in deflection
2. Check the Oil level, do not be surprised if the oil is very black, this is normal for a Diesel
3. Check Coolant level by doing a visual on the expansion tank. The level should be between the lines. Do not fill as coolant will expand when the engine is up to temp.
4. Check the Sea Strainer – this is a visual check with a flashlight. The Sea Strainer is located in the aft port corner of the engine room. If there is weed inside the strainer, use the strap wrench located under the nav table seat to crack the seal and open the lid. Remove the strainer being careful not to unseat the black o-ring and clean out the weed. Replace the strainer and carefully thread the clear plastic lid onto the grey body and gently tighten.
5. Check transmission fluid, be cautious of the yellow plastic T-handle and not to overtighten.

Starting:

- a. After the above engine checks are completed and an overall visual check on the engine are completed close the engine access and ensure that the Engine Start Battery and Black Negative Ground switch are in the ON position.
- b. Make sure the gearshift is in neutral (vertical lock – little red button can push in only when in N).
- c. Push the On/Off button (bottom left of engine panel). **It only takes a quick push - if you push it in and hold it too long it will turn on the then right back off again.**

The COOLING WATER FLOW alarm will sound and is rather loud. Use the MUTE button to silence while starting.

- d. Once panel has booted up (takes 3-4 sec.), push the Start/Stop button.
- e. After she starts, check for water flowing out the exhaust at the aft port side hull.
- f. Warm up the engine for approx..5 min before shifting into gear.



Engine Overheat - The first alarm to signal an overheat situation will likely be the exhaust temp alarm, the red LED light aft of the Yanmar Panel and the audible alarm under the cockpit table (same audible alarm used when the tailgate is going up or down). Also look to see if there is cooling water exiting with the exhaust and if there is restricted or no flow shut the engine down immediately when safe to do so. Overheating is the most likely cause for the light and audible alarm but the engine has its own alarms as well, for example it will also alarm if you run out of fuel. If you have overheated the engine you will need to find the source. First thing to do is shut the engine down. Next check if the intake thru hull is closed, is there an obstruction like a plastic bag over the intake or is the sea strainer clogged with debris. If all looks good then the problem is downstream and may need a mechanic. Call San Juan Sailing if a mechanic is needed.

Engine Shutdown - First make sure the engine is at idle and the gearshift in neutral. Then push the Start/Stop button for about 2 seconds. The alarm will sound. Once the RPM reaches 0 on the screen, push the On/Off button. The alarm will stop.



When sailing, be sure to lock the transmission in reverse to stop the prop from spinning and wearing/ making noise. If sailing swiftly when you go to start the engine the throttle may not want to go into neutral. Get it as close as you can and start the engine at very low RPM. Once the engine starts the centrifugal force of the prop spinning will allow for an easier shift into neutral and then forward.

15. FUSION STEREO/RADIO

Connecting your device via Bluetooth:

Push menu button and select **BT**.

Select **discoverable**.

Open Bluetooth settings on your device and scan for Bluetooth devices. The stereo should show up on you list of devices as "SPIRITUS FUSION."

An option should show up on your display asking to pair with the device and confirm pairing code, select "OK". Once paired your song selection and device name should show up on the Fusion display.



Push volume rocker to adjust the volume in individual zones (Cabin and Cockpit)

16. Connectivity System

Spiritus is equipped with a Narwhal connectivity system featuring a 5G/4G – WiFi antenna in an 8" slim disc antenna at the top of the mast. There is a router, booster and sim card injector under the nav seat protected by wood sides with ventilation screens. You should not need to access any of the equipment. Instead, to switch from Marina WiFi to 5G/4G you can log onto the antenna and switch its priorities. If there is a problem with the system everything is accessed by a device (laptop, phone, tablet) where you can log onto the router or log onto the antenna using the below IP addresses to check or change status:

Router Admin: <http://192.168.101.1>

User Name = admin / PW = NarwhalCore20

Antenna Admin: <http://192.168.50.1>

User Name = admin / PW = NarwhalCore20

To log onto the connectivity system with your device (laptop, phone, tablet) turn on the wi-fi on your device and you should see 2 Narwhal networks – NarwhalWiFi Spiritus & NarwhalWiFi Biz. The only network you will need to log onto is **NarwhalWiFi Spiritus / PW = NarwhalConnect6304**

Each charter guest is given a 25GB allotment of data to use for their charter. For normal email and staying connected this should be ample. For streaming you will need to manage your data usage accordingly

17. Smart TV

Spiritus is equipped with a Samsung 110v AC “Smart” picture TV. The inverter must be on for the TV to work. The TV is a low amp draw appliance but with continuous use you may need to run the engine to keep batteries above 11.1 volts. When not in use be sure to turn the TV off completely by pressing and holding the on/ off button (no picture/ art mode).

The Smart TV remote is located in the forward starboard shelf corner of the salon as is the “brick” for the TV. On the aft facing side of the “brick” you can plug in up to 2 USB devices for display on the TV.

The Smart TV can also be connected wireless to your device through the on-screen menu. Live TV connects you to the digital antenna on the mast of Spiritus located just above the radar and gives you 50+ channels without using internet. The Apps function on the TV will allow you to log into your Netflix, Disney, Hulu etc. accounts but remember the limit on data usage that can go quickly when streaming.

18. FUEL TANK AND ENGINE DISPLAY PANEL

The **tank supplying the engine diesel fuel holds 53-gallons.** It sits under the port aft cabin berth .

The fuel shut-off valve is located on top of the tank. The fuel gauge is located on the Navi Color touch screen display at the nav station. The engine hours can be viewed using the digital readout on the engine panel in the cockpit. There are a total of 4 screens set up on the panel as follows:

1. RPM – large digits
2. RPM (small digits) + Coolant Temp
3. RPM (small digits) + Oil Pressure
4. Fuel Rate + Hrs



When filling the tank listen closely and have someone monitor the tank gauge during fueling. As you get closer to being full you will hear fuel starting to rush up the fuel hose which may be too late as fuel will foam and flow out the vent swiftly causing a spill. We recommend once you see the percentage full at 95% – 100% stop fueling. The Fuel Fill cap is located at the aft port corner of the walk around deck and is the low point on the side decks. As such, standing water might be present when opening the cap and it's not a good idea to allow water into the diesel fuel. It's therefore important to both:

- Sponge-dry the area prior to opening. A FUELING USE sponge is in the port cockpit locker, for this purpose.
- Ensure the cap is put back on nice and snug (please inspect the seal at this time for any visible damage which might prevent a water-tight seal)

19. GALLEY

Spiritus has a fantastic “central” galley with lots of counter space and stability. We have done our best to provide a well-equipped galley. We have place settings for eight onboard and most of the pots, pans and utensils needed for food preparation. There is a large assortment of spices condiments and supplies onboard. The following list is intended to give you a flavor of what we try to keep onboard.

Please note that no refrigerated items are included.

- Spices - 12 assorted spices.
- Condiments - Cooking oil, olive oil, balsamic vinegar, red wine vinegar, hot sauce.
- Supplies - saran wrap, aluminum foil, baggies, containers, garbage bags (under sink)

All we ask is when you use the last of something that you replace it. There is also an assortment of cleaning supplies are under the sink.

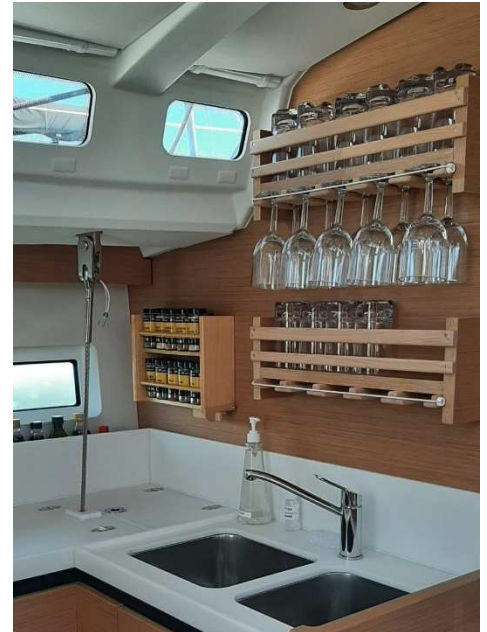
Microwave - We have a microwave aboard for convenience. It's located under the aft outboard corner of the galley counter. Lift the Corian counter lid up and secure the stainless pull to the white bungee stowed above the lid to keep the lid open. With 2 hands, gently press down and then ease up and the microwave will beep and come up to the counter level. When stowing the microwave do the opposite and be sure it locks in the “down” position before closing the counter lid. If not plugged into shore power, you will need to be sure the inverter is on. Microwave's can have a large AMP draw so be cautious when using and consider running the engine to keep the batteries topped off while inverting for microwave.

Storage - Spiritus has quite a lot of storage for groceries. This video is excellent demonstration of how to pack a week's worth of supplies into a similar Jeanneau 440: <https://tinyurl.com/4405storage>

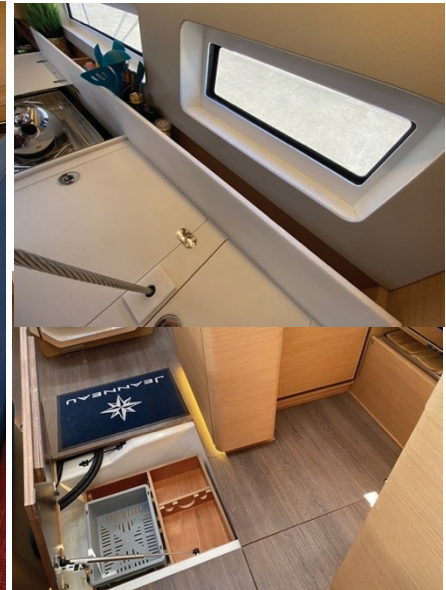
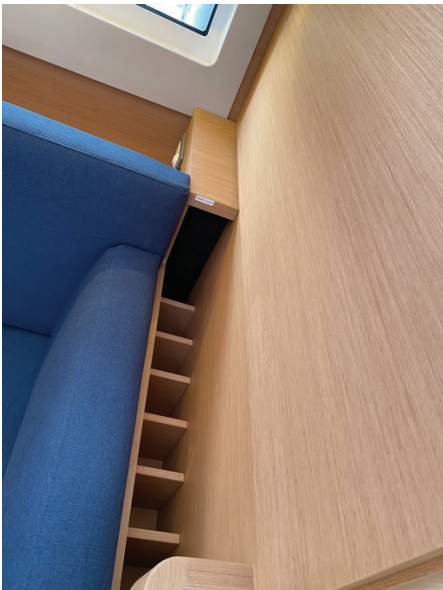
We use the under floor wine cellar for wine, beer, soft drinks, water etc. and use both the built in wood storage along with outboard to starboard storage. We put the grey basket atop the bottles for even more storage.

On the starboard aft outboard side of the salon are 2 large mixing bowls. We use these bowls and the area around them for dry food storage.

Under the forward inboard side of the salon settee is a large cube area that is also good for food storage.



Plenty of hidden storage for food, bottles, etc.



REFRIGERATOR/FREEZER

The side load fridge is switched on/off by the DC panel switch shown in the figure to the right. The top load Freezer is switched on/ off using the "AUX" switch on the DC panel. Each has a separate thermostat to control temperature inside the fridge. The fridge control is at the upper right back end of the unit and freezer control is at the inboard forward corner of the freezer unit. Items placed on the top rack of the Fridge may freeze if the fridge is turned down to low. There is a small freezer compartment at the top of the fridge for ice trays and other items.



When opening the freezer lid there is a small white bungee attached to the inboard chainplate and stowed on a small magnet. When the freezer top lid is open you should secure the stainless steel handle of the Corian counter lid with the bungee. Slamming Corian lids could easily break the Corian, use caution on all Corian lids when opening or closing them and use the provided bungees to help.

There is a pin style latch that pushes down on the inboard top of the Fridge side door. We rarely use this but if you are in rough weather you may want to latch the fridge shut.

Top Load Freezer:

Side Load Fridge w/ Freezer at top:



STOVE AND OVEN

The gimbaled propane stove has two burners and an oven. Propane is heavier than air and requires caution. For your safety, please follow these procedures:

- a. When not in use, be sure all stove controls are in the vertical "off" position and the BBQ regulator "off" and yellow t-valve inside propane locker in up vertical closed. Solenoid should be off (down no green light). Having the stove or BBQ valves open if the solenoid is open may cause gas to flow.

To light the Stove, Oven or Broiler:

- b. Open the aft port cockpit seat locker and turn on the propane valve
- c. Turn "on" propane solenoid valve switch in galley by sink. Push down on the red button then toggle "up" on the rocker.
- d. Push the ignition button on the right side of the stove controls and choose the feature of the stove you wish to use by pushing in, turning and holding the dial. For the Stove and Broiler feature "black" is flame – push and turn the knob to the "black" feature you wish to use. When lighting the stove or broiler it takes about 3-5 seconds to allow the thermocouple to sense the flame. The oven takes a bit longer until it is hot enough for the flame to stay on.



****NOTE: Broiler feature should always be used with the BROILER PLATE at the top underside of the oven opening.** Failure to use the BROILER PLATE may cause the glass in the stove to crack.

- e. When you are finished with the stove, oven or BBQ turn the solenoid switch in the galley "off" and close the valve on the propane tank itself. Also be sure the yellow t-valve inside propane locker is in the up vertical closed position.

Please note that propane valves and solenoid are in the propane locker in the aft port side of the cockpit.

This locker is vented and isolated from the rest of the boat. If there are any leaks the propane will be vented down and out of the sealed compartment. San Juan Sailing's staff fills the propane tanks based on weights. There are 2 aluminum propane tanks, one in the aft port cockpit seat locker and one in the aft starboard side under cockpit locker. One tank normally lasts 3-5 weeks.

20. HEADS AND HOLDING TANKS

Please do not put anything in the toilet that has not been eaten. Experienced sailors deposit toilet paper in a wastebasket, not down the toilet because paper tends to clog the system. There are no plumbers at sea!

Both heads have electric fresh water flush toilets. Each head has its own holding tank of 13 gallons. It is easy to fill the holding tank swiftly if using a lot of water and toilet paper. It is also easy to waste fresh water if using too much water. Fresh water heads eliminate odor by not allowing seawater organisms into the system. If using toilet paper, be sure it is San Juan Sailing marine grade TP that breaks down swiftly and use sparingly.

When you flush the electric fresh water head there are a couple of options.

1. The lower left button is fresh water only
2. The lower right button is macerator/ dry bowl only
3. The top middle button is fresh and macerate together.

Depending on what you are doing depends on which button to use, #3 (top middle) is good to break down larger matter and macerate/ pump up to the tank.

If you are in Canada the tanks can be dumped overboard by opening the holding tank drain valves located under the sinks in each of the head compartments. When the large red T-handle is perpendicular the valve is closed, when parallel it is open

Please note these are gravity drain tanks, there is no need for a macerator on the way out. They will normally drain in less than a minute (you will hear them finish with a 'woosh' if the engine is not running).

To pump out the tanks the forward head deck fittings is on the port side and aft head is on the port side. They have "waste" stamped into them and black deck fittings for "black water". In US waters, holding tanks should be seized shut to the sea and all "black water" must be pumped out at a designated pump out station.



If you have four people on board and have 'normal' usage, the tanks will need to be emptied every other day. If you have more onboard or heavy usage, please dump or pump every day.


There is no level indicator other than a visual on the holding tank itself so being 'regular' with your emptying is important. If the holding tanks need to be accessed for visual inspection you will find them located behind the mirrors that are above the sinks in each head . Be careful opening these mirrored long paneled doors. In the fwd head there are 2 pull points, 1 under the mirror itself in the left lower side and with a finger in the white bungee strap at the top area of the door. Note the door has 2 x white sockets, when shutting it needs to be lifted a bit and gently push fit into each socket. In the aft head there are also 2 pull points (under mirror and white pull bungee) but only 1 white socket at the top where the pull bungee is located. Technique on the aft head holding tank is the same however, when closing only the top where the white bungee is will gently press" in. Both doors hinge from left to right and have some weight to them, it is advised to support the outer edge while inspecting the tanks.

21. HEATER


The Webasto Furnace uses fuel from the main fuel tank. The heater unit is mounted in the starboard aft cockpit seat locker outboard behind a protective wood cover locker. The thermostat is located behind the starboard saloon seating in aft end of the outboard shelf.

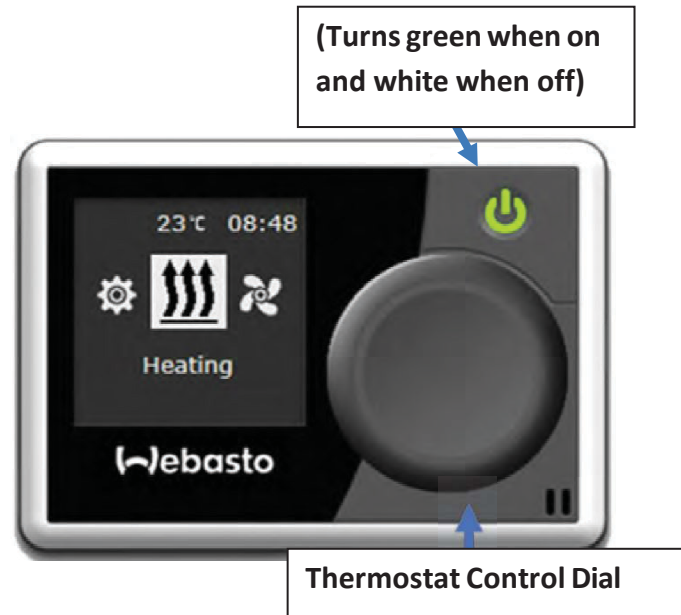
Simply turn on the power switch on by pressing the button in upper right that will turn white (if not white already) and then green. Press the middle disc for menu options and the thermostat and set the temperature you want. There is a 2-3-minute delay from when you turn it on to when you will hear the fan running. There is a rotating dial on the controller that is used to adjust the temperature. When you want to turn the heater off you simply press the power button (button will turn white).

The diesel is pumped from the main tank and the intake does not go all the way to the bottom of the tank on purpose.

 If you are planning to use the heater, do not let the fuel tank go below 1/3 full, otherwise the heater will lose prime. Should this happen it takes about 6-7 start sequences to re-prime the system or may need a reset on the control panel by a technician.

When the furnace is running you may notice a clicking noise under the aft port mattress, this is the electric fuel pump pulling from the main diesel tank. Also, we do not recommend running the furnace all night (although it is doable) as its draw on the batteries is sizable. It is also noisy, especially from outside the boat and in the port quarter berth. The heat is dry, comfortable, and on those occasional rainy days or cool evenings, makes a huge difference in cruising comfort!

 **The exhaust vent for the heating system is located on the aft starboard stern quarter of the boat and gets very hot. Please be aware this a common location for placement of a starboard stern fender when at the dock or rafted with another vessel. There is also a carbon monoxide risk to the boat occupants tied to the starboard side if using the Webasto system. We recommend the starboard side be tied on the outside of a raft arrangement to minimize this risk.**



22. INSTRUMENTS

AUTOPILOT AND WIND DISPLAY

At the aft end of the cockpit table are two instruments, the multi function with several options including wind/depth/speed gauges (left), and the autohelm (right).

By default the wind/depth/speed (through-water) will appear as seen in the photo to the right

The autopilot is controlled with the **Auto** button to engage, and the Red **STBY** button to disengage. Never turn the wheel while in **Auto mode as it will stretch the steering system.** Note both wheels will turn when the autopilot is engaged

There is an Autopilot remote at the aft wall of the nav station. It should always be used with the lanyard secured to something so as to not lose it. When it is in the charging cradle and the electronics are “off” it will cycle back on and an alarm will sound. It should be plugged in only when electronics are “on” for this reason.

CHART PLOTTER AND RADAR

You should have little need of the radar unless you get stuck on a time planned crossing/ movement or enveloped by fog. Fog in the islands usually forms in the wee hours of the morning and burns off by mid-day. If it is a bit foggy after breakfast, we put on an extra pot of coffee and relax until it lifts.

For practice, you can engage the radar screen and/ or radar overlay on the Chartplotter(s) to get use to the system on a clear day.

Please remember that SJS contracts do not permit night or restricted visibility sailing. Prevent moving the vessel in fog if at all possible.

The radar is activated from the chart plotter home screen.


 If you use the radar, please make sure it is set to transmit off when you are done. Simply switching back to the chart plotter screen does not turn it off and it can draw a fair amount of power if you are using while sailing.

FIGURE 6 - SWITCH FOR ELECTRONICS (INSTRUMENTS)



FIGURE 7 - WIND/DEPTH/SPEED & AUTOHELM GAUGES

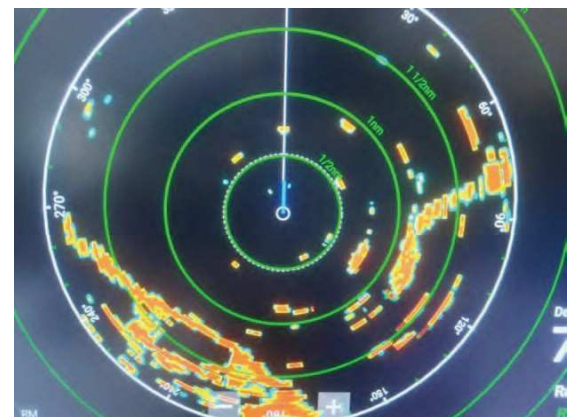
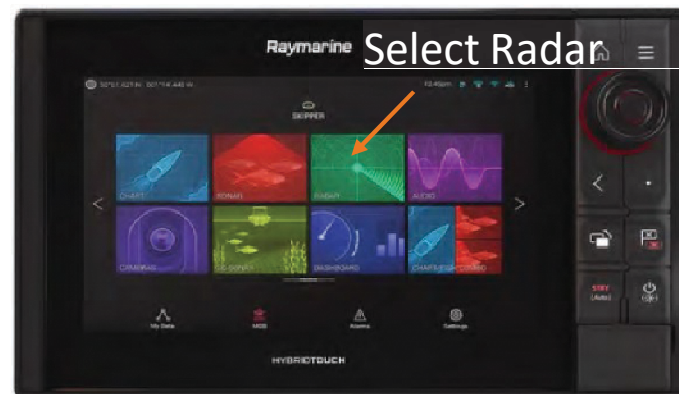


CHART PLOTTERS – (2)

We treat the Chartplotters as computers and always shut them down at the power source on the unit and not by using the breaker. The starboard side Chartplotter is the master and the port the slave. They share the same data files, data file located in the starboard side charplotter holder, there is no need to go into this holder, just know it is there. Always turn the starboard side Chartplotter on first before the port side and turn it off first before the port side.

The chartplotters are very powerful with both a dial and touch screen. If either freeze up, best to turn off and reboot.

AIS - AUTOMATIC IDENTIFICATION SYSTEM.

This system will show most commercial vessels and some recreational vessels on chart plotter screen as triangles. The triangle points in the direction that vessel is moving and if you move the cursor over the triangle and touch the screen or push the middle button of the dial the system will give you addition information including the name of vessel, MMSI #, size, speed, course, distance of closest approach, time of closest approach.

Note that AIS is **NOT** a replacement for Radar, not all Vessels are equipped with AIS and reading a radar screen, even during daylight hours, will pick up almost all vessel traffic along with land and sometimes navigational aides depending on their size.



AIS transmits this same information from Spiritus to other vessels with A.I.S. whenever **Electronics are powered “on”** at the upper left icon on the DC switch panel.

23. VHF RADIO

The Raymarine VHF radio is mounted at the nav station. It has its own on/off power button on the unit itself and is NOT on the Electronics breaker.

A wired remote mic/speaker for use in the cockpit is at the starboard helm. It has its own power button atop the unit. The main VHF must be "on" for this remote to be operational. When both are on, the two units sync on the same channel.



In addition, there is a portable VHF handheld unit which lives clipped to shelf of the nav station where it can be charged using it's included USB cable. This is a floating device and therefore good for taking ashore when needing to keep in touch with the boat. Even though it floats it is not good to get it wet if at all possible.

We recommend that you monitor Channel 16 during your charter. It is reserved for emergencies and boat to boat initial contact. After contact, move to channels 68, 69, 72, 74 or 78. We listen to weather channels 1, 2, 3, 4 or 8 (whichever gives the best reception in the San Juan/ Gulf Islands) before we sail in the morning and prior to anchoring for the evening. When in the San Juan/ Gulf Islands, listen for reports identified as "Northern Inland Waters" for the most accurate weather radio forecast.).

We also check the "Windy App" on our phone or "Predict Wind" from the connectivity system

San Juan Sailing monitors channel 80 during office hours Mon-Sat 9-5 (closed Sundays)



24. SAILS AND RIGGING



It is tempting to save some effort and use the electric winch for furling and unfurling the main, but in doing so, there's a **SEVERE** increased risk of damaging the system. **We request guests operate the winches manually with a winch handle when furling / unfurling the mainsail,** as it provides feedback on loads being applied and you can feel when something is wrong.

Only use the Power Winches for trimming the main and genoa and even at that be cautious. Watch and listen any time you are operating a power winch aboard Spiritus. If you hear the winch bog down, stop and check what is stuck. Watch for things not to be working properly such as the headsail not skirting properly which may cause need to go forward and manually skirt the head sail inboard of the lifelines/ bow pulpit.

UNFURLING THE MAIN SAIL

We suggest going head to wind to take the load off the mainsail when furling / unfurling. Unlike a standard main where you simply raise the halyard, on a furling main it important to control the furling “in” line with a bit of tension when pulling on the outhaul to ensure an easy deployment and the sail not screaming out of the mast extrusion uncontrolled. By controlling the yellow furling “in” line it also ensures that the worm drive gear that the yellow furling “in” line wraps onto does not get an over-ride or jams.

1. Start by letting the boom relax in the “up” position. Release the boom vang, ease the main sheet slightly until the vang spring is at the top of its throw.
2. Ease the boom topping lift so that when the sail deploys the leach of the sail is taking the load. This will allow for tight trim upwind sailing. ***NOTE:** Be cautious of “2-blocking” the mainsheet boom blocks – 1 at the top of the bridal facing upwards and 1 on the boom facing downwards. We like to keep at least 1”-2” separation maximum to be safe. “2-blocking” the mainsheet can result in damage to the blocks and may not allow you to sail.
3. On the port cabin top line clutches, open the MAIN FURLING clutch controlling the yellow main furling “in” line. Ensure the line has at least one wrap on the winch for speed-control but can run free and clear out towards the mast. The yellow line will wind around the worm gear on the base of the mast as the sail is unfurled. Watch as it winds to ensure it is tracking correctly in the worm gear.
4. Check the outhaul clutch is closed.
5. Pull on the "Outhaul" while easing the "Main Furling" line, always keeping an eye on the mainsail coming out of the slot in the mast and keeping tension on the yellow "Main Furling" line. Use a manual winch handle of necessary on the outhaul and be sure to ease the yellow line.
6. When unfurling the main all the way out, do not over-tension the outhaul so that the clew goes to the end of the boom. Always leave some draft and try not to “strap” the foot of the sail.
7. Please do not adjust the halyard tension of the main or headsail halyards. They have been set for ease of furling and good sailing. Adjusting the halyard will make it difficult to furl and unfurl the sails.

FURLING THE MAIN SAIL

1. After the Headsail is furled in and secure, turn the engine on and motor head to wind or with the wind slightly off the starboard side of the boat.
2. East the Boom Vang to allow for maximum boom rise.
3. Ease the main sheet enough to reduce load in the main sail and let the boom rise as high as possible without the mainsail getting out of control.

4. Put the grey Boom Topping lift line on and ensure it is not wrapped around the backstay or shroud.
5. Prepare the Outhaul line to run fully and freely with the clutch open but with at least one wrap on the winch to control the flogging of the sail and possible overlap of sail fabric on the way in. If the sail fabric wraps on itself on the way in it can make it very difficult to roll out. If this happens the system will stick on the way "out" not "in" with the fix being to pull downward on the clew/ leach of the sail to "spring" the fabric on the way "out" and allow the sail to furl out cleanly. One cause of this can also be a halyard that is too loose, thus the reason we ask you to **NOT** adjust the halyards please.
6. Take any slack out of the yellow "Main Furling Line" and ensure the clutch is closed.
7. Open the "Outhaul" clutch and ease with a wrap on the winch while pulling on the yellow furling line or using a manual winch handle to roll in.
8. Keep an eye on the mainsail clew as it moves towards along the boom to the mast.
9. Take the mainsail all the way into the mast until the forward part of UV protected clew is inside the mast.
10. Close the MAIN FURLING clutch, tension the Outhaul and main sheets, and close their clutches. Finish with snugging up the Boom Topping lift.

HEADSAIL

Our genoa is a 120% and has good sail shape when fully deployed. Its size helps in lighter air, but during periods of heavier winds you may furl the headsail in as desired or when unfurling do not bring the sail out all the way. There are 3 blue dots on the headsail that are reference points for reefing/ reducing headsail power.

Please remember to unlock the headsail furling line clutch and keep moderate tension on the headsail furling line at the port side cabintop when deploying the headsail using the genoa sheets. This will help to prevent a "bird nest" on the furling drum and ensure the sail does not come screaming out when deploying. Similar tension on the genoa sheets should be used when furling "in" to prevent 'candy striping' of the furled sail. We like to put 2-3 wraps of the genoa sheets around the headsail when we are done sailing for the day.



When bringing the headsail in from a broad to beam reach to close reach/ close hauled be cautious to ensure the clew of the headsail is inboard of the pulpit. Failure to do so can result in the pulpit bending or breaking and even worse tearing up the deck.

REEFING THE FURLING MAIN SAIL & FURLING GENOA

The beauty of a furling mainsail is it is very easy to deploy and retrieve and it can be reefed anywhere you would like. The Main Sail has 3 blue dots on the foot near the clue as reference points for reefing. If you are overpowered we suggest taking the mainsail in to the first dot. If still overpowered take in on the headsail to the first dot. Follow this sequence of main first then headsail when depowering.

When reefing the mainsail and sailing upwind you can put the Boom Vang on and ease the mainsheet slightly to take load off the main and still sail with the headsail. Follow the same instructions for furling the mainsail in to reef but stop pulling on the yellow Furling "in" line at the desired reef point. To shake the reef out, follow the instructions for Unfurling the Main Sail. Note so long as you are sailing upwind and put the Vang on with sheets eased you do not need to turn the engine on and go head to wind to reef.

If you are sailing downwind it is not advised to reef the furling mainsail as there is too much load. Change your point of sail to close hauled and reef from a close hauled point of sail by following the directions above

If you are sailing downwind and would like to reef the headsail it is done best by driving down to blanket the headsail behind the main that takes load off and furl in on the headsail. Watch your point of sail when doing so and be careful of an accidental gybe.

DEPOWERING & POWERING THE FURLING MAIN SAIL WITH BRIDAL SYSTEM USING THE BOOM VANG

On a modern sailboat with no traveler and a spectra bridal system the Boom Vang becomes a key component in mainsail trim and powering/ depowering the main. On the Jeanneau 440 the boom has a tack clue to it and a high clue angling “up” from the boom for increased sail area and having the boom well out of the cockpit. When using the Boom Vang remember that the boom is angled for to your eye it may not look right when looking at the boom but when you look at the leach of the sail you will see more clearly the results of Boom Vang tension or easing.

To power the main up when sailing upwind we suggest putting the vang on to the desired setting to close the leach of the mainsail. The mainsheet itself when trimmed 1”--2” from “2 blocking” the system brings the mainsail onto centerline nicely. However, at times the leach is open a bit and you will not want to trim the mainsail any more as you do not want to “2-block” the system. Use the vang to close the leach but

***NOTE: - be sure the boom topping lift is slack as it will prevent the vang from pulling down**

To depower the main when sailing upwind have the boom vang on and ease the main sheet. This will allow the mainsail to go down and close the slot between it and the headsail and is the exact same geometry as taking a deck mounted traveler and dropping it leeward with the mainsheet hard on. If it is gusty leaving the Boom Vang “on” and easing the main sheet in the puffs / trimming in the lulls is a good technique

When sailing downwind be sure to put the Boom Vang on to flatten the leach of the mainsail and keep the sail off the aggressive swept back spreaders.



Never allow the boom to go out so far to rest against the shrouds of the rig. Use the boom vang and the mainsheet to keep the boom itself off the stainless steel shrouds.

GERMAN MAINSHEET SYSTEM

On a modern sailboat the industry has gone to what is referred to as a “German Mainsheet” system where there is one very long continuous mainsheet that that has ends at both port and starboard side winches. When sailing with a German Mainsheet system you load the mainsheet up to the weather primary winch and load the genoa sheet to the leeward primary winch. We recommend leaving the clutches open on the working main sheet and genoa sheet with 3-4 wraps around the winch drum and then up over the thimble and into the self tailer of the Harken winch itself. The self tailer acts as the “cleat” and if you need to dump either main or genoa you simply pull out of the self tailer and ease. To trim push the desired power winch button.

All sail trim on a German Mainsheet system is accomplished between the 2 helms. With the winches inboard on the Jeanneau 440 it makes it quite easy for single hand sailing. When you tack or gybe, you use the rope clutches at the primary winches as extra hands. Gone are the days of sailboats having a “winch farm” with lots of winches, the primary winches handle the main and genoa both.



On a German Mainsheet system start your sailing day by making sure the mainsheet is balanced with the same amount of line on each side. During your sailing day, if the mainsheet gets out of balance ease one side and pull the other to rebalance. You never want to run out of line on one side and let the stopper to the clutch

When we tack Spiritus we use a technique where we put the weather clutch of the mainsheet down to lock it while still sailing upwind and then take the mainsheet off the weather winch. We then load up the weather genoa sheet with only one wrap and leave the weather genoa sheet clutch down but pull out all the slack in the weather (lazy sheet). With the leeward genoa winch clutch still in the open position and 3-5 wraps on the drum with the sheet locked off in the self tailer, we then take the leeward genoa sheet out of the self tailer and hold it in one hand. After the headsail is done with its useful life we then unwind the old leeward genoa sheet and simply pull in on the new leeward sheet through the rope clutch. The new leeward genoa sheet rope clutch holds the sheet in place and after the tack we can then put 3-4 wraps around the new leeward genoa sheet winch and up over the thimble and into the self tailer as the "cleat". We then open the new leeward genoa sheet clutch. On the new weather winch we then take and put 3-4 wraps of the new weather side mainsheet around the winch, over the thimble and into the self tailer to "cleat" it off. We then open the weather mainsheet clutch and we are set on the new tack to be able to easily ease or trim.

When we gybe we always do controlled gybes on Spiritus and we ask that you do as well. Controlled gybes are safer for the crew and they do not point load blocks, lines and winches so there is less breakage. For a controlled gybe with a German Mainsheet system we use a similar technique by locking off the leeward jib sheet and giving the weather jib sheet a bit of "float" by opening the weather rope clutch and paying some line out. We then load the leeward mainsheet with 3-4 wraps onto the leeward primary winch up over the thimble and into the self tailer prior to the gybe but we leave the rope clutch "down". From there we trim the main to centerline using the weather primary winch. Once the main is on centerline or very close to centerline we gybe Spiritus but the key is to let the mainsail out on the old leeward primary (new weather primary). This technique will keep the mainsheet in balance as you change point of sail.

***Note/ Tip** – If a rope clutch is hard to open, ease the load by taking in a bit on the line and then opening the clutch. This eases the cam lock and allows for easy opening of a rope clutch

25. SHOWERS AND SUMP

Experienced cruisers know the sailor's shower: get wet, turn off the water, soap up, turn water on and rinse off. **CAUTION:** THE ENGINE CAN HEAT THE WATER TO SCALDING TEMPERATURES! Each shower has an independent sump pump with an automatic switch under the stainless steel grate. The auto switch goes on when the water level makes contact with the 2 positions on the switch and pumps automatically and once engaged stays on for a bit on a time cycle. No need to find a button while all soapy and push. Each shower sump has a thru hull fitting under the sink fitting located in the shower area. Although the sump is below waterline, the thru hulls can stay open as there is a plumbed loop off the shower sumps that goes above waterline before exiting near the waterline. These pumps also have re-settable fuses (breakers) behind the 12v panel. If the pump is not working, check the resettable fuse.

There is a hot / cold cockpit shower fixture back at the swim platform. If it is nice weather in a secluded anchorage an outdoor shower is often the way to go. This cockpit shower is also useful for washing off shoes / feet/ lines etc. after returning from the beach. This fixture is located on the transom to port of the aft storage locker. The water pressure needs to be on and then the hot / cold dial needs to be toggled downward/ upward. The hot cold dial is then dialed to the desired temperature. Note the cockpit shower is the furthest fixture from the hot water heater so if the water is not hot give it a few minutes to get to the cockpit.

26. STERN PLATFORM - TAILGATE

The Stern Platform (Tailgate) is raised and lowered with buttons that have arrows for the direction the platform is going on the aft end of the cockpit table, below the wind and AP instruments.

There are two barrel bolts on either side of the stern platform that securely lock the platform in place while sailing. When lowering or raising the platform be sure that these barrel bolts are locked back in the retracted mode for if they are not they will bend or if out when coming up they will damage the gelcoat and then bend. When lowering or raising the platform be sure the aft stern lifeline gates are not in the way of the platform, the swing out BBQ and propane hose are not in the way of the platform, and the shore power chord/ pigtail adapter is not in the way of the platform.

When not on board the boat we ask that you bring the platform up. When onboard it is ok to leave it down, creates a great outdoor deck and seating area. When not onboard the boat we ask that the platform be raised up. If you are in an anchorage and large waves roll in the platform can be lifted by the waves and dropped back down which is not good. When getting in and out of the dinghy use the platform for easy in/ out for all but one person. The last person should raise the platform and board the dinghy by use of the blue fender ladder tied onto the base of the side stanchion gates. When returning in the dinghy, one person should go up the fender ladder and back to the platform controls to lower the platform.

We use the barrel bolts to lock the platform only when the boat is moving, this way it is very hard to forget to open them when raising or lowering the platform.



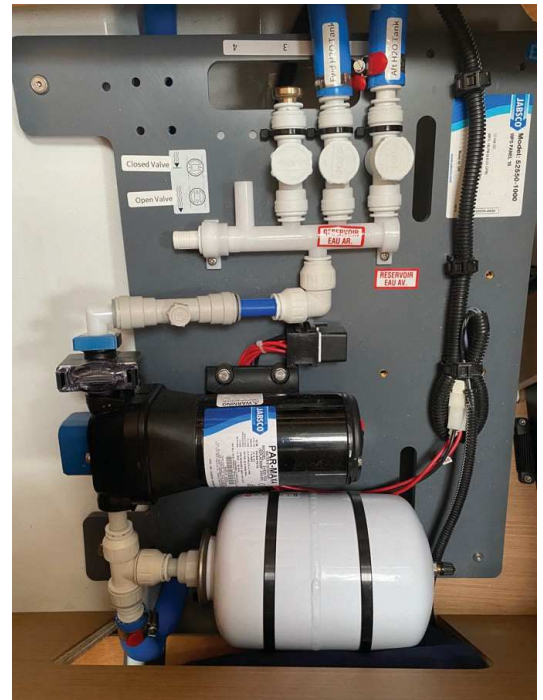
⚠ Be careful not to overpack the aft starboard under cockpit locker with too much stuff of have things that get under the drive for the swim platform/ tailgate as it can compromise the unit.

27. WATER

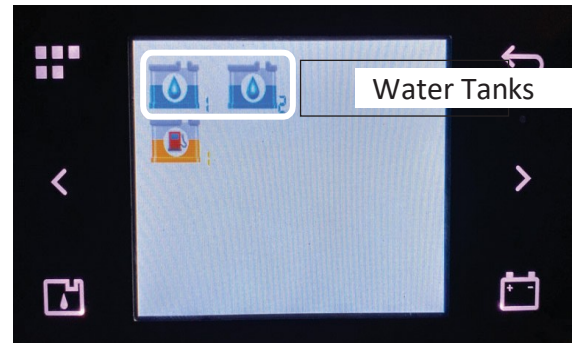
Water pressure - The freshwater pump switch is located on the electrical panel with a water tap icon. Please switch this off when motoring or sailing. You could burn out the water pump should one of the tanks run dry (and you would not hear the pump running over the sounds of motoring or sailing). You can also blow and entire tank of good fresh water if the pump is running and you do not know it. There is a green light in the lower right of the 12v panel icon that indicates that the water pump is on

The “pump board” (photo to right) is located in the forward starboard corner of the salon settee under the seat. Take the corner cushion off and then carefully lift the center seat cushion or remove it in order to lift the hinged seat flat for access to the pump board. There is a pressure accumulator tank (white tank at bottom of photo to right) that helps to maintain constant pressure so even if the pump is “off” you will still have residual pressure in the system.

Water tanks - There are two water tanks, Tank #1 is a 83 gal. tank located under the forward berth, Tank #2 is a 57 gal. tank under the aft starboard cabin berth. Selection valves are on the pump board under the salon settee. Only one valve should be open at a time, and we usually drain the Tank #1 (forward tank) first as it lightens the bow for better sailing and keeps the balance aft (57 gal Fuel tank under port cabin berth). The white nobs turn 90 degrees and when the middle flat part is in line with the blue waterline it is open, when perpendicular it is closed.



There is a digital water tank gauge on the Navicolor display panel, it indicates the percent of water remaining per tank. *NOTE: the forward water tank is somewhat cubical in shape thus the fwd gauge reads more accurate. The aft tank is a odd shape that tappers aft thus the gauge does not read as accurate for it cannot account for the taper. Same is true of the fuel tank, the taper makes the gauge not as accurate. We have found with both aft water and fuel tanks that when they read 25% remaining they are starting to get pretty low and you should think about refilling.



Tank # 1 - Bow Tank - 100% = 83 gal,

Tank # 2 - Starboard Aft Tank - 100% = 57 gal

The deck fitting for the bow water tank is on the port side forward of mid-ship. The deck fitting for the starboard tank is on the starboard side about mid-ship. Both are marked “water” on the top and

Water Heater - The water is heated with the main engine when running under load or in neutral above 500 RPM through a heat exchanger in the water tank that takes waste heat from the engine and warms the water in the tank **CAUTION: THE ENGINE CAN HEAT THE WATER TO SCALDING TEMPERATURES!** The hot water is stored in a 10-gallon tank located under the salon settee aft outboard bench seat. Water can also be heated by 110v power when shore power is available.

28. WINCHES

Spiritus has 4 winches, 3 12v electric and 1 manual.

The two large (electric) primary winches near the helms are for sheeting the main and genoa. The port cabin top has an electric winch for halyards only.



Furling should be handled by manual operation of the handle located in the pocket on the starboard side of the cockpit table. This is because furling gear can be overwhelmed by the power of the motorized winches which can result in damage to sails, lines, and furling systems.

The electric winches are supplied by 12V DC. A breaker protects the electrical circuit. An operation relay is fitted to the electrical circuit. A load controller is fitted to the electrical circuit: This system protects the winches against overload by temporarily interrupting the electrical supply.

There two speeds (strengths) 1 = FAST 2 = SLOW

Inserting a winch handle into an unloaded winch automatically disconnects the motor transmission and allows it to be used manually.



NOTE: Heavy use is made of the batteries when operating the electrical winches. Make sure the battery bank is systematically recharged after a day's sailing.



29. COCKPIT CUSHIONS & CONVERTIBLE COCKPIT

Spiritus is equipped with factory cockpit cushions for both the seats and the seatbacks. There are 11 cockpit cushions including the convertible cockpit insert and long lounge seatback cushion. The cockpit cushions should live in the forward sail locker when not in use or when it is raining.

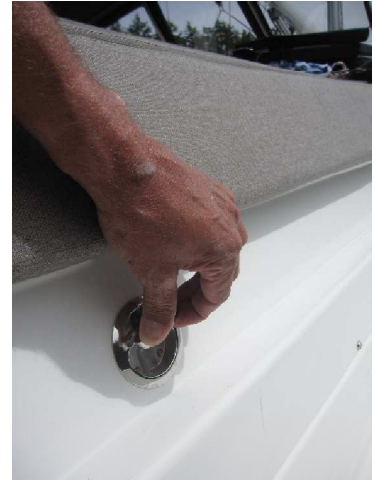
Please be certain to strap the seat cushions and snap the seatback cushions. When not in use, please be sure to close the white plastic clips as they are easily snagged or broken when in the "out" position. For the starboard side convertible lounge seatback please be certain to strap the lower part to the white clips. The exterior snaps are for use of this cushion in the "backrest / seating" position, when it converts to a lounge the snaps are not used.

The starboard side cockpit coaming of Spiritus can be converted to an awesome daybed/ lounge. We do not recommend doing this under sail or power. We do however use this feature a lot at anchor. To convert to a lounge.

To convert the starboard side seatback cushions start by lifting the twist lock D-ring at the starboard lower side of the outboard side of the seatback as shown in the photo beside:

This will trigger 2 ss bullets to disengage from there sockets

Next, using the same D-ring lift the Starboard seatback up and outboard. Once you have done this you can use the palm of your hand on the Underside of the part itself to gently lower and rest on the outboard Gunwhale of the starboard walk around deck ramp.

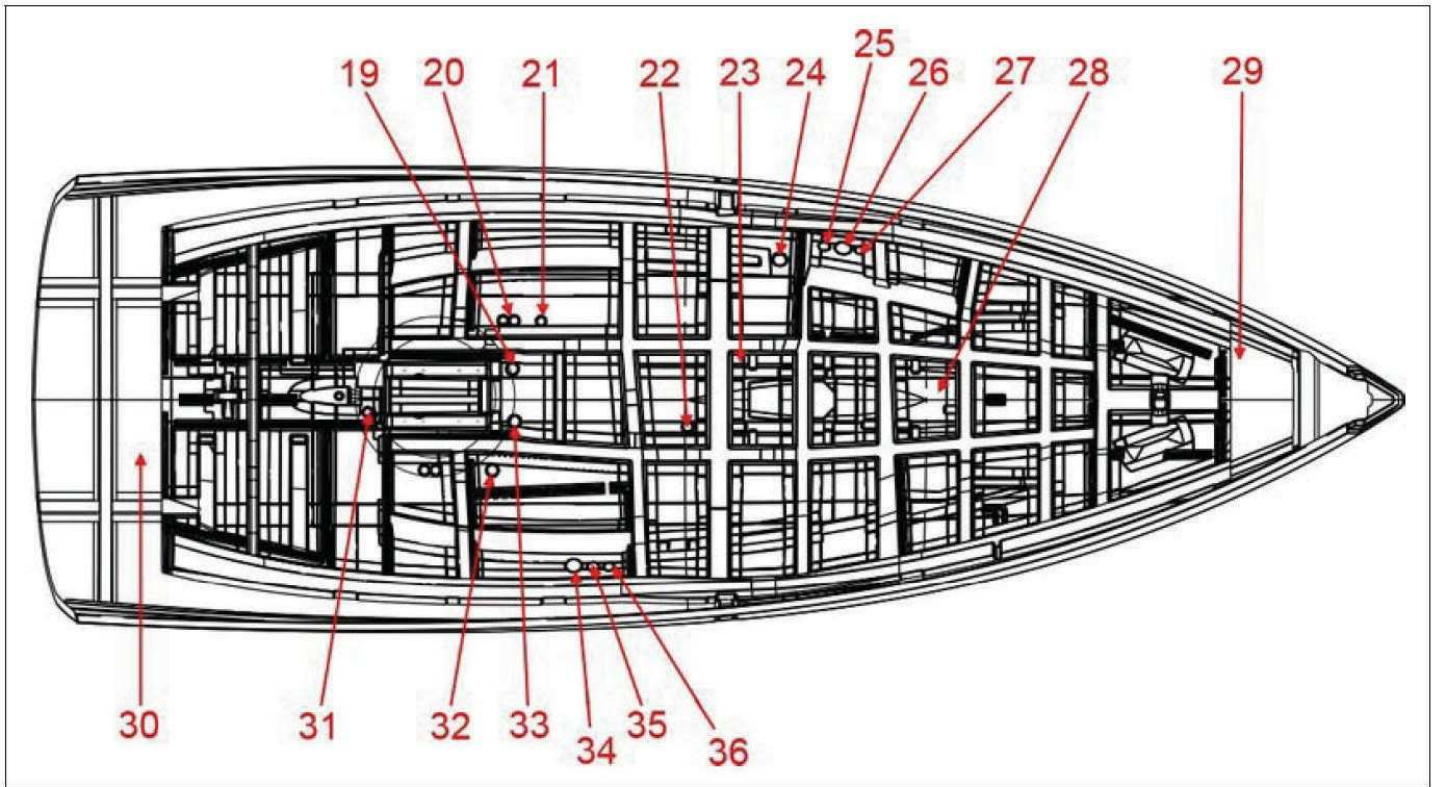


We often use the converted lounge without the filler insert as it is roomy for 2 to lay lengthwise. The other option is to insert the filler. To do this, get the white folded board out of the starboard side seatback locker and lay it on the bench seat as shown in the photo below to the left. It is best to do this with 2 people as the board is a bit heavy. Pull the silver SS bullets holding the aluminum pin bars in “stow” position and carefully slide them across the board to the receiving sockets. Be careful not to pinch skin in the bars/ sockets as it can leave a nasty blood blister and really hurt! Using the handle slits at the ends, again a 2-person job, flip the filler board with the flat side up and insert onto the Torlon cylinders

There is a filler cushion that folds and seats atop the board and there is a long backrest that can tie to the lifeline gates or be set up against the starboard side cockpit table leaf. End result is shown on the photo below to the right, now relax and enjoy the lounge!



When done, stow the filler board in the starboard side cockpit seat locker and the filler cushion and seatback resting cushion in the forward sail locker and fold the starboard seatback up and back into position



Reference	Designation	Valve
19	Sea water intake - Motor	Yes
20	Earthing plate - DC/AC converter & Generator	Not
21	Sea water intake - Water maker	Yes
22	Sea water intake - WC	Yes
23	Sea water intake - Foot pump	Yes
24	Galley sink drain	Yes
25	Head washbasin evacuation	Yes
26	Black water drainage tank (WC)	Yes
27	Sea water intake - WC	Yes
28	Sensor	Not
29	Sea water intake - Deck wash pump	Yes
30	Seawater discharge - Generator	Yes
31	Sea water intake - Sternpost	Yes
32	Sea water intake - Generator	Yes
33	Sea water intake - Air conditioning	Yes
34	Black water drainage tank (WC)	Yes
35	Head washbasin evacuation	Yes
36	Sea water intake - WC	Yes