

Owner's Notes
Meritage
2017 Dufour Grand Large 382

Dear Friends,

Welcome aboard *Meritage*!

We have placed our *Meritage* in charter with San Juan Sailing. Before that, we were long time charter guests. So we have been in your shoes, so to speak. We've watched designs come and go, and frankly, we think the 2017 Dufour Grand Large is the finest design we've seen. And the sailing is superb. We love how she safely handles larger seas yet is spirited and quick in the lighter winds that we so often see in the Northwest.

We've made many wonderful cruising memories in the South Sound, San Juan Islands and points north...our hope is that you enjoy *Meritage* as much as we do. If something comes up, please feel free to give us a call or text at 360-528-9641. You can also reach us at meritage.charters@gmail.com.

If you can think of anything...anything at all...that would make her more enjoyable for you, please let us know through San Juan Sailing. We've tried not to overlook any detail in our effort to make her our ultimate sailboat.

We wish you fair winds and wonderful memories. Thank you for being our guests!

Sincerely,

Ben and Beth
Meritage

Meritage Boat Specifications

LOA: 38.1 ft (11.6m) Displacement: 19,665 lbs (8920 KG)
LWL: 36 ft (11m) Ballast: 4078 lbs (1850 KG)
Beam: 12'8" ft (3.9m) Draft: 6'3" ft (1.9m)
Year built: 2017
Fuel Tank: 52.9 US Gal (200 L) Holding: 13.2 US Gal (50 L)
Water (total): 100 US Gal (380 L)
 Forward Water Tank: 50 US Gal (190 L)
 Aft Water Tank: 50 US Gal (190 L)
 Hot Water Tank: 5.3 US Gal (20 L)
Mast Height Clearance: 56.5 ft (17.2m)

Engine: Volvo Penta D2-40F, 40 HP. 2 blade, fixed prop.

75Ah engine start battery

105 amp alternator

For planning purposes, the engine approximately burns 0.8 US Gallon per hour at a cruising speed of 2400 rpm, producing approximately 6.5 knots boat speed. More details in notes below.

Sails:

Off Shore, performance sail package. Lazy Jack system.

334 ft², 108% Genoa

410 ft² fully battened mainsail

Sails by Elvstrom.

Mast Height Clearance: 56.5 ft (17.2m)

Asymmetrical Spinnaker with ATN sock. (Available for check out at San Juan Sailing with appropriate spinnaker resume – please pre-arrange with San Juan Sailing.)

Electronics:

B&G Zeus 2 multifunction display at each helm station.

9 inch B&G Zeus 2 at starboard, 7 inch B&G Zeus 2 at port helm.

Three B&G Triton multifunction Display (Wind, Speed, Depth, Autopilot) installed above companionway for full-cockpit visibility.

B&G 4G Radar, with integration into both Zeus 2 Multifunction Display. Stand alone and/or chart overlay mode.

B&G Autopilot. Normal autopilot operation, also integrated into B&G "Sail Steer" so you can set and hold a wind angle if so desired.

B&G AIS transmit and receive

B&G Lowrance GoFree WiFi

 Enables iPad connection to Zeus 2 Multifunction Display with "GoFree Link" app by Navico (available on your iPad app store - download for free) (B&G states they will have android support in the near future – check at BandG.com if you desire).

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**There are videos, articles and user guides available at <https://BandG.com/academy>.

iCom IC-M424G VHF radio with integrated GPS and AIS
Fusion MS-AV650 stereo system. Integrated Bluetooth for connection to your smartphone / iPod. CD player (under faceplate of stereo system).

Staterooms: [3 doubles; 0 singles] [L x W of each berth]

Headroom: [main salon]

Heads: One (1) head (bathroom). One (1) oversize toilet. Manual pump.

Refrigerator/Freezer: Top and front loading Isotherm fridge/freezer.

Stove/Oven: Two burner stove top. Single oven. Propane. Manual light (with long lighter)

Other:

We have installed 12v outlets, USB charging and 120v shore power into each stateroom and at the navigation desk in the salon.

Note there is an additional 120v shore power outlet above the stove, under the microwave. It can be difficult to find but it is there.

We currently have no plans to install an inverter.

Batteries:

210 Ah total house battery.

105 Ah usable house battery available.

115 amp alternator.

House batteries can be charged from 50% in about an hour of running the engine at 1500 rpm.

Please do not run batteries below 12.4v/50%.

The following is true for our batteries: 12.25 = 25%, 12.4 = 50%, 12.5 = 75%, 12.8 = 100%

Meritage Nuances

- 1) **Fenders:** We stow them under the aft lockers under the helm stations.
- 2) **Heads and holding tanks:** Manual sea water toilets; after liquid use, we pump "dry" then "wet", then finish with "dry" to empty bowl. For solids pump "wet" before above to prime water into bowl. Holding tank is gravity drain, valve under vanity sink. Please...do NOT overfill. Seacocks always closed in harbors/coves; USCG regulations say closed in all US waters.
- 3) **Draft:** Please note our draft is a deep 6'3" and the rocks are hard. Very hard.
- 4) **Prop Walk:** Almost nonexistent. Backs pretty straight.
- 5) **Mast Height:** Please note we chose to outfit *Meritage* with the optional longer mast and larger sails. Our mast height clearance is 56.5 ft (17.2m).
- 6) **Beam:** Please note that our beam is 12'8" slightly wider than some older style sailboats. This gives us a large and comfortable cockpit and salon. Let your marina know the beam width when making reservations or requesting a slip.
- 7) **Fuel Tank:** Please note that the fuel tank on *Meritage* is V-shaped. This means that the fuel level indicator reads higher than the actual fuel in the tank! Yes, you have less fuel than you think! We strongly recommend recording your engine hours beginning of trip and computing your fuel consumption (more details below). The alternative to this is refueling when the indicator reads 50% (half tank). We have noticed that the heater will stop working at just less than half a tank. Heater uses diesel fuel from main tank.
- 8) **Weight Ballast:** Use the forward water tank first for better weight distribution management. *Meritage* has 200 ft of 3/8" chain on the main anchor which adds quite a bit of weight up front.
- 9) **Forward Water Tank:** Please note that the forward water tank level indicator is currently not working (as of May 10, 2017). Our maintenance folks will be replacing the water level indicator at their earliest convenience. If concerned, call me for status update, Ben at 360-528-9641. The water level indicator in the aft (back) tank works well. Advise using up the front tank first then switching to the aft tank for best water management and weight distribution.
- 10) **Tips and techniques about the refrigerator:** A bag of ice and other cold mass helps to stabilize the temperature. Ice is provided by SJS. As you consume your food we find it best to turn the temperature up a bit. Turn the knob counter-clockwise slightly. The warmest spot of the fridge is on the shelf, accessed from the front door (not the top door), good for vegetable storage. The coldest spot is accessed from the counter top door. We find it very possible to have both ice and unfrozen veggies with a bit of adjustment.
- 11) **Meritage** is a French boat so of course she has a 12 bottle wine cellar in the cabin sole! Access is in the floor in front of the companionway stairs. We find the wine cellar temperature remains pretty close to the temperature of the sea. Meritage (pronounced like heritage) wines are provocative red or white wines crafted solely from specific "noble" Bordeaux grape varieties and are considered to be the very best wines of the vintage.

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1. Emergency Equipment

Highlights

- **4 fire extinguishers:** in forward stateroom, port locker; in galley under the sink; starboard aft stateroom locker
- **10 adult life vests.** We wear these at all times when working the deck, during docking and often in the cockpit. We do not provide child-sized life vests.
- **Fog horn, 3 emergency flares.** Fog Horn is located in cabinet above nav station. Emergency flares are located in starboard cockpit locker in orange waterproof case.
- **Emergency bilge pump.** Handle attached to underside of port helm seat near shore power plug. Note: if water rises above floorboards, can use shower sump pump also in emergency.
- **Emergency tiller.** Long curved pipe in port or starboard cockpit locker. Open deck fitting at helm to attach Emergency Tiller to rudder post.
- **Lifesling.** Located at starboard stern pulpit. Please review the cartoons on the face of the case for procedures. The lanyard is secured to the boat so that tossing the floating harness allows it to tow behind the boat like a ski tow rope. Circling the person overboard will draw the recovery line near them.
- **VHF Radio** at nav station & Remote MIC at Starboard helm.
- In case of COB, throw anything that floats, quickly.

Details

Through hulls: A schematic showing through hull locations is in the Charter Guest Reference Manual, facing the title page of these Owner's Notes.

Through-hull locations that you may need to use:

1. Head, located under vanity sink(4): Holding tank drain (closed in US waters, all shallow bays/marinas)
2. Aft Port Cabin(11) Inside engine compartment. Engine raw water intake valve for cooling engine. **MUST BE TURNED OFF TO OPEN SEA STRAINER. SEA STRAINER IS BELOW WATER LEVEL.**

2. Anchors

Highlights

- Please be careful of fingers and feet around the windlass
- **44# Bruce primary, 200' chain + 150' rode, 10' yellow mark at 100', then 5' yellow marks at each 50'. Last 20' in red.**
- **Fortress secondary in cockpit locker, 30' chain/130' rope**
- **CAUTION: Chain can build into mountain in chain locker when retrieving – Use mop handle to kick down piles of chain**
- **Snubber always hooked unless chain is moving**
- **500' polypropylene stern tie line in port cockpit locker – Do not cut this line**

- **Main Windlass Breaker located behind Starboard Aft dinette seat under electrical panel, plus windlass circuit breaker on the electrical panel**

Details

Main anchor – 44# Bruce mounted on the bow, with 200' 3/8" chain marked with 10' yellow paint at 100', and 5' yellow at 150' and 200'. Last 20' in red.

Windlass – Main circuit breaker located behind Starboard Aft dinette seat under the electrical panel. Access is behind dinette cushion. Windlass circuit breaker switch on electrical panel also needs to be turned on. The engine needs to running. Run at 1500 RPM. Captain's decision: Main breaker behind dinette cushion may remain on or off during non-use. San Juan Sailing recommends leaving it on for rapid emergency deployment of anchor unless there is crew aboard who may play with windlass remote.

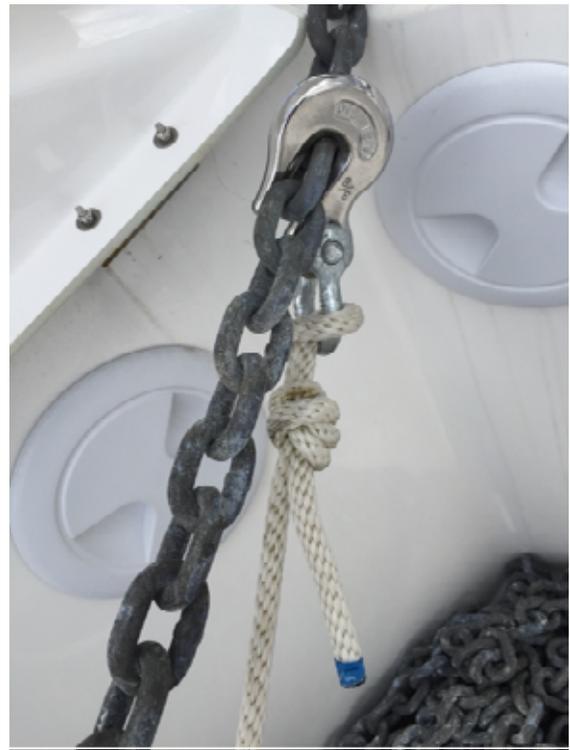


Snubber - We use a light snubber employed for both attaching anchor underway and for overnight if light breeze predicted. Snubber is stored in anchor locker and should be secured to ring inside the anchor locker. See photo

Secondary Anchor – Heavy duty but light weight aluminum Fortress anchor stowed in the starboard cockpit locker.

To Deploy Anchor:

- 1 – Make sure engine is on and both circuit breaker switches are on.
- 2 – Check Weather (ch 4, "Northern Inland Waters") - forecasted wind speed and direction helps select a protected anchorage.
- 3 – We also check Tide Tables to determine amount tide will drop while anchored and highest tide will rise.
- 4 – Normal for the islands is a 4 to 1 scope, bow to bottom. Check depthsounder at time of anchoring, add 5 feet to depthsounder reading (4' freeboard and 1' for transducer below waterline). In San Juan Islands, anchorages are often about 25' bow to bottom, so we often deploy about 100' chain—hence the 10' yellow marker at 100'.
- 5 – To avoid hitting the hull we push the anchor forward keeping the shank *level* before gradually allowing the shank to rise as we ease it forward slowly into the hanging position (no swing!).



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Otherwise the flukes anchor into the fiberglass of the bow (Ouch!).

6 – With one fluid motion we lower to approximately the number of feet on the depthsounder so the anchor is near the bottom by depressing the down switch.

7 – A signal to the helmsman prompts reverse at idle speed while deploying rode to the desired scope.

8 – We then allow the anchor to set and stop the boat while it continues in reverse at idle speed. We then line up objects on shore to determine if we are holding, staying in reverse at idle speed for about one minute.

9 - Finally, we reset the snubber. Then ease the windlass so it is not under strain.

As noted, if zero to light winds, we use the light snubber and tie to the windlass cleat; in heavier winds, **use the heavier snubber**, whose loop goes over the port deck cleat (not the cleat on windlass), then lead under roller furling line and over vacant port anchor roller. **Where is heavier snubber stored???**

If stronger winds are forecast, we test the Anchor with RPM at half the projected windspeed (1,000 rpm for winds to 20 knots; 1,500 rpm for 30 knots), **always after attaching the heavier snubber**. (We check movement shoreside, not the significant prop current going by the chain.)

10 - In storm conditions (or storm forecast), you can increase scope (5 to 1, or even 7 to 1) if there is adequate room to leeward and surrounding boats at anchor.

11 – The secondary anchor is available for additional holding power if a storm is anticipated, but best if set before the storm hits.

12 – If anchored in a small cove, you may wish to deploy a stern line ashore. 500' floating polypropylene on a reel resides in a cockpit locker. Open transom; use the mop handle as an axle through the reel; set mop handle on helm seats. Deploy the line with the dinghy while the spool unwinds. If sufficient length, bring the line around a secure shore object and back to the boat to a transom cleat for ease of release.

To Retrieve Anchor:

1 - Start the engine, run at 1500RPM.

2 – Make sure both circuit breakers are turned on.

3 – Depress port “up” switch, always assuring the chain is vertical during retrieval—this avoids either towing the boat (excessive strain on the windlass) or dragging the chain against the hull. Into a breeze, we engage forward gear/neutral as needed, but exercise care that we don't go forward too far and drag the chain against the hull.

4 – A mountain under the windlass can jam it and in rare cases cause a wild gravity runout of rode. If that happens, stand clear for safety. We avoid that chain “mountain” by “lifting” the chain forward in the well as it is retrieved, using the mop handle. We grab the chain with the mop handle and push it forward as another crew feeds it by pressing the “up” switch, 2'-3' at a time. Important for the initial chain retrieved. Last 50' can stack under windlass ok.

5 – As the length of rode remaining approaches the water depth, the sound of the windlass laboring alerts us to immediately stop. Sometimes a brief pause will cause the anchor to break free, given the 90 degree angle of pull. A brief tap on the button, if

laboring, says to break out the anchor with the engine in idle forward, not with the windlass.

6 - To nest the anchor without chipping the hull, the anchor may need to be swiveled. We use the windlass to bring the anchor shank up and over the bow roller in one continuous motion, then nest the anchor by hand.

7 - After nesting, with a slight *slack in the chain*; we secure the anchor once again with the light snubber on the windlass-mounted cleat. As noted, the chain is only "unsnubbed" when it is moving in or out.

8 - Turn off the windlass circuit breaker at the electrical panel (main windlass breaker normally remains "on" unless there are mischievous kids aboard. Good in case of emergency deployment.)

3. Barbecue

Highlights

- **Blue in-line valve in propane locker**
- **Please clean grill when finished**

Details

The propane stainless steel BBQ is mounted on the port stern rail and needs to be connected for use with a regulator fitting found in the propane locker under the port helm station. To use the BBQ, there is *no need to turn on* the propane solenoid control unit in the galley, instead use the blue in-line valve to open (in-line) and close (perpendicular) propane supply to the BBQ. Open the BBQ lid and use the butane lighter (from the galley) to ignite. Turn off blue in-line valve and then disconnect the propane line when finished. The blue BBQ regulator fitting that remains on the hose will open when pressed in storage and will empty the tank. If you do not turn off the blue valve when finished you are likely to find an empty propane tank when needed the next time.

4. Batteries/Charging

Highlights

- **No need to touch battery switches. All batteries automatically charged with combiner.**
- **Engine start batteries – Bank #1**
- **House batteries – Bank #2, has 105 usable amp hours (Ah)**
- **Average consumption, from engine shutdown until next morning: 50 Ah**
- **Capacity remaining measured in volts (please do not run below 12.4v)**

Details

- We check voltmeter for house batteries before retiring for the night, then check again upon waking in the morning. Upon each engine startup, we check to assure we are charging properly. The system charges the house bank first, then the start bank, using a combiner. You can just leave the switches alone, except to combine for emergency engine start. For reference only: Battery switches are in the starboard aft stateroom, below the cushion storage for the salon mattress.

- The house battery and engine battery are controlled by plastic keys located near sole behind aft starboard cabin door. They may remain plugged in and on at all times. The engine battery can be turned off if there is security concern in your current boat location.



- Caution: we are careful when we have children aboard to **not** allow them to play with the switches while the engine is operating. The alternator diodes could be destroyed resulting in batteries not being able to be charged and an expensive repair.

- The engine's high output alternator (115amp output) and smart regulator deliver maximum battery recharge, while separating the "draw" so that the engine start battery is never drawn down by house loads. However, the regulator will still "tamp down" alternator output to avoid boiling out the batteries. Thus, it is often impossible to fully top off batteries from running the engine alone. The most efficient way to charge the house batteries is to run the motor no more than an hour at a time at anchor or until the house battery voltage registers near 13.5 while charging.

Engine Start Battery:

One 75 AmpH battery is located in the front of the engine compartment

House Battery Bank:

This battery bank is located in Starboard aft cabin under the mattress.

The batteries can be charged by:

- a) Alternator will charge batteries when underway
- b) Running the engine at Anchor – limit running time to 1 hour or less
- c) 30Amp shorepower. Nothing needs to be done to switch to shore power other than plugging in. There is a blue light on the cable that glows when the power is on.

Electrical Monitoring:

Voltmeter/alarm: To monitor the current state of charge, press the appropriate "Volts" button. A large readout located upper right at the panel displays voltage in the house battery bank and engine start battery. There is currently no low-voltage alarm.

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If you go under 12.4V on the house bank (#1), please recharge the batteries with one of the above methods. Drawdown of less than 12.4V can permanently damage these top-of-the-line 10-year AGM batteries. Thank you for caring for our batteries by proper battery monitoring and management!

5. Berths and Bedding

[photo of dinette conversion]

Meritage has 5 berths. 3 staterooms and 2 settee berths.

Each stateroom has a “breathing barrier” under the cushions to dissipate body and boat moisture. No need to raise the cushions for airing each morning.

- For added comfort in the Owners Stateroom, we have added 3 inches of “memory foam” topper to the extra thick Queen+ boat mattress, with a wrap-around mattress pad to secure it all.

- The aft cabins feature the same Queen sized extra thick mattresses with a 2 inches of “memory foam” topper and wrap around mattress pads, and have a crushable spun fiberglass breathing barrier underneath.

- Finally, each berth has comforters. SJS provides 2 sheets and pillow cases for each berth to Charter Guests.

- An adult can sleep on the Port single settee

- The Starboard settee converts to a full length double bed. The mattress insert and extra cushion are stored in the aft starboard cabin on the ledge. Remove settee cushions, un-latch, set up support legs and fold out dinette double bed. Pull out the forward bench which also exposes additional storage.

6. Bilge Pumps

Highlights

- **Emergency Hand Pump:** Located at port helm seat
- **Electric Bilge Pump:** Main Bilge Pump located in sole starboard of salon table, should always be dry.

Details

1. Emergency Hand Bilge Pump – This hand operated pump is located at the port helm station.
2. Electric Bilge Pump – The automatic float switch is located in sole starboard of salon table, should always be dry. Note: the circuit breaker labeled “Bilge pump” *must be “on” at all times* for the float switch to work (marked by “double green” dots – Dots need to be installed). The bilge pump is under the nav table and has an in-line screen strainer under the nav station. *If pump fails to empty bilge, we check the strainer under the nav table, in case it may have become clogged with debris.*

The dripless PSS engine shaft seal helps reduce bilge water.
Note: In emergencies, the shower sump pump can be turned on if water rises into the head.

8. Dinghy and Outboard Engine

Highlights

- 10' aluminum hulled Apex dinghy (2017), 2.3hp Honda (2017)
- Tow 6' off stern, place loop over port aft cleat; tie off bitter end
- Please don't tow with Outboard attached, or leave on overnight — may flip

Details

We have learned these precautions, please:

1 – *Never tow the dinghy with the outboard* on the dinghy, or overnight. Always transfer the outboard to the sailboat transom. It could flip and go for a swim, costing you an outboard engine.

2 – The 2.3hp outboard engine takes straight gas. The gas tank is topped at 2/3 (for expansion in hot weather) by our staff. We will top it off when you return the boat, no charge. We stow gasoline container in the dinghy, tied to the transom. For safety, please *never* store gasoline container in an enclosed compartment.

The 30' polypropylene dinghy painter floats. A large loop in the painter about 7' in front of the dinghy makes it convenient to drop over a stern cleat for towing. We suggest that you tow the dinghy about 6 feet off the *port quarter, away from the starboard engine exhaust* (to avoid any sooting of the dinghy). If we use the cabin heater, we lift the painter so it rests on the end of the rail. This avoids the heater exhaust (located on port quarter), which *melts painters!*

The 6' scope also avoids wrapping the painter around the engine shaft when in reverse! Plus, underway dinghy bow is raised slightly, reducing drag, so you sail faster.

Dinghy painters inexplicably come loose (and dinghies disappear), so we suggest you tie the bitter end to the rail as shown and secure excess painter line.

In a storm, towing on the side away from the wind makes it unlikely the dinghy will flip in the wind/waves.

9. Dodger, Bimini and Rain Fly Insert

Highlights

- Center panel between Dodger and Bimini (Rain Fly) insert can easily zipped/unzipped. See instructions below. The rest of the dodger stays in place.
- Hint: If we get early morning dew fogging our dodger glass, or salt crystals from spray, we rinse off with a pan of fresh water from the galley (salt crystals may

need a second splash). We *avoid wiping*. By the way, if you or your guests use *aerosol sunscreen, please apply well away* from the dodger. Sunscreen will destroy the glass. (San Juan Sailing replaced two panels destroyed by sunscreen.)

- **To deploy the bimini, unclip the two aft legs and secure with pins. Then clip the adjustable straps onto the aft bar of the dodger and tension as desired.**
- **If you wish to use the rain “insert” between the bimini and the dodger (gives full), zip the insert in *before* attaching the bimini’s two aft legs or tensioning the straps. Here’s the steps we use:**

1 – Remove bimini cover and bungee cord; stow in starboard locker.

2 – Carefully pull the leading edge of the bimini forward.

If zipping in the “rain insert” now is the time. If not, go to step #5:

3 – Zip in the leading edge of the insert to the aft edge of the dodger. The insert should be rolled and is normally stowed on the starboard “ledge” or starboard hanging locker of the forward stateroom.

4 – Zip the aft edge of the insert to the forward edge of the bimini.

5 – Unclip the aft legs of the bimini. Secure them to the mounts on the stern rail, using the attached pins.

6 – Finally, tension the bimini by clipping its two adjustable straps around the aft bar of the dodger and tension as desired.

Reverse the steps to stow the insert and bimini. Thanks for your good care.

10. Electrical Panel



Highlights

- Only the electrical panel circuit breaker switches that you are using need to be on, there are no required switches that must remain on except Automatic Bilge Pump which remains on at all times
- LED lighting and refrigerator can safely be used overnight, when anchored if starting with a mostly full house battery
- Turn off Heater before going to bed to save electrical power in house batteries.
- There are no switches with a power leak. Power is only used if the devices are used.

- 1 - The automatic bilge pump circuit breaker must remain on at all times.
- 2 - The shower drain should only be on when water needs to be drained from the head/bathroom shower.
- 3 - The switch labeled HIFI/12V DC OUTLETS controls the stereo system and the 12V outlet at the HIFI/VHF panel on the port side next to navigation station. The switch labeled 12V & USB controls all the 12V/USB combo stations located in each cabin and at the electrical panel.
4. The switch labeled WATER PRESSURE controls the fresh water pump for vanity sink in head and galley sink. (located under the forward port settee.)

Operation of LEVEL INDICATORS

Battery Level –

Press and hold left rocker switch to read house battery voltage level (12.4-13.0 when at anchor).

Press and hold right rocker switch to read engine battery voltage level (normally reads 12.75).

Water Level -

Press and hold left rocker switch to read AFT water tank level

Press and hold right rocker switch to read FORWARD water tank level (**Not currently registering – pending replacement of sensor**)

Fuel Level -

Press and hold left rocker switch to read FUEL tank

Right rocker switch – displays NOTHING as no secondary fuel tank



LP GAS Control System (TRIDENT MARINE)

Turn on LPG Circuit Breaker at Electrical Panel. Wait 10 seconds for blinking light to turn solid. Then press On button to open Propane solenoid for oven and stove operation. NOTE: Does not control BBQ.

Press Off button when you are done using the stove and let the gas burn off prior to shutting the stove valve off. It will take several seconds for the propane to reach the stove when lighting if the valve has been turned off properly.



Propane Control for Galley Stove & Oven

ESPAR Cabin Heating System Control Box

Controls the Diesel hydronic heading system.

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Move the rocker switch (upper left) from "O" (for "off") to "I" (for "Ignition/On") and set the dial to desired thermostatically control temperature. Pictured is a comfortable start point. Uses diesel from main tank for heat and DC power from the house bank to run the fans.

Heater does not require the engine to be running and blowers will run without being connected to shore power. On average we have found it uses about 4 Amp/hour for evening usage. This will vary based on how much it is used. Do not use heater overnight.



11. Electronics

Autopilot [photo]

Highlights

- Tap "AUTO" button (lower right) to activate
- 1 degree arrow buttons and 10 degree arrow buttons allow you to easily adjust your course
- Tap "STANDBY" (upper right) to regain steerage

Details

The autopilot is either on or off. Always hold onto wheel when enabling or disabling autopilot. Push "Auto" to activate. It will hold your present course. Push "Standby" to turn off the autopilot and return control to the wheel.

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

Chartplotter [photo and/or video]

Highlights

- B&G Zues 2 multifunction touch display at each helm displays chart, radar, SOG, COG and other relevant cruising data. Also can control routes and autopilot.

Details

- 1 - At electrical panel, turn on "chart plotter" and "autopilot" circuit breakers.
- 2 - Currents "Rosario Straits", etc and Tides can be viewed as well as distances to way points and data for AIS ships.
- 3 - Touch the screen to make the screen active.
- 4 - The dial or +/- scrolls in and out.

5 – Reset cursor brings you back to view your own boat position if you have moved it around.

We respectfully ask that you not adjust the display settings, other than “heads up” or “north up” and zoom. Please use the chart plotter only for position finding, not for setting way points. *Please do not adjust the default settings.* (Sorry, but if we need to call a professional to reset to defaults for the next guest, that will be on you. If someone plays with the plotter, try _____ to get to home.)

Note: The red line is your actual course based on your COG (course over ground). Very handy for crabbing into the Current when necessary to avoid being swept off course and onto rocks/reefs!

To choose “heads up display” or “north up display”, press “menu”, rotate doughnut to “presentation”, choose display. Again, please do not customize beyond this.

We use the paper Maptec Chartbook for pre-planning, for continuous monitoring and orientation underway and for pre-locating rocks and reefs (*obstacles*) on our planned route. We use the chart plotter to track our position underway in detail, for occasional confirmation of chart position, and for navigating in coves and shallow waters..

Radar

Highlight

- **4KW digital radar overlays onto chart display**

Details

- 1 – “RADAR” circuit breaker is on the electrical panel.
- 2 – At the helm, push the “home” button, rotate doughnut to “RADAR” from the menu, press toggle in to select. Allow time to warmup.
- 3 – Rotate doughnut to switch from “Standby” to “Transmit”.
- 4 – From “home” you can choose to show radar only, radar and chart plotter side by side, or chart plotter with magenta radar overlay. We normally leave the unit preset to radar overlay when the radar is activated; sometimes we find it beneficial to show a side by side display for greater radar clarity.

Charter Contract does not allow guests to travel at night. We do not cruise at night or in fog. The radar is especially useful should one be *unpredictably* enveloped in fog. If there is fog either visible or in the forecast, we stay at our mooring until it lifts (normally before noon). Safety is paramount.

A.I.S. - Automatic Identification System.

Last revised: 6/7/2017

Highlights

- **Shows most (BUT NOT ALL) commercial vessels as triangles on the chart plotter**

Details

The triangle points in the direction another vessel is moving and if you move the cursor over the triangle the system will give you additional information (name, size, speed, etc.) The system also transmits this same type of information about your boat to other vessels with A.I.S. It comes on automatically when the chart plotter is turned on.

Depthsounder

The depthsounder is calibrated in feet and is set to read from water level. Due to rocks, we get nervous in anything less than 30 feet underway and 15 feet in an anchorage.

Please Note: You *cannot* rely on the depthsounder to avoid rocks! It is possible to go from 300' to on the rocks in less than 30 seconds under sail in some areas! The answer is simple: we always plan our route on the chart and track our position on the chartplotter. Rocks are clearly marked.

Knotmeter

You have two speed sources: speed through the water, and speed over ground (registered by the GPS on the chart plotter, which takes current into account). Both can be displayed on a Triton and on the chartplotter.

VHF Radios

Highlights

- **ICOM IC-504 VHF radio is located at the navigation station.** The VHF circuit breaker must be turned on first.
- **ICOM RAM mic at the port helm.** The RAM mic enables us to hear, tune, and transmit from the cockpit.
- **Always Monitor Ch 16 from sunrise to sunset.** If you are the nearest vessel to an emergency, you may well be able to save a life or a boat.
- **Test Volume.** Listen to Weather Channel/WX Button, then switch to monitor CH 16.

Details

For your convenience, we have "tagged" two channels for you: 80 (San Juan Sailing) and 16 (the emergency and vessel contact channel). Please remember to *touch the*

“scan” button on top of the remote mic after each use so that you automatically monitor channel 16 while underway.

The “WX/CH” button accesses the weather channels (channel #4 is most often in San Juan Islands). We listen for “Northern Inland Waters”. Pressing “WX/CH” again returns to last channel monitored. Always return to CH 16 when underway.

Emergency Procedures: See Section #1 / Emergency Equipment in Owners Notes.

12. Engine

Highlights

- **Volvo 40hp 4 cylinder diesel, sail steer and two blade fixed prop.**
- **The stairs lift to access the engine for daily engine “lookover”. This “before engine start” shows us in one quick view any black powder belt wear or loose belt, oil in bilge, eelgrass in strainer, or coolant spillage. Almost all access necessary is easily done from the front of the engine.**
- **Avoid excessive idling beyond 2-3 minutes**
- **2200 rpm is economy cruise, about 6.0 knots**
- **2400 rpm is fast cruise, about 6.5 knots**
- **2800 rpm is emergency fast cruise**

Raw water strainer is BELOW water level and is clearly visible without opening. Remember to close the raw water intake valve located in aft port cabin before removing filter to clean if debris is noticed. After cleaning, the strainer bowl should refill itself. If not, you may need to “blow out” eelgrass from the hose/seacock with the dinghy foot pump, very forcefully. When replacing the lid, please avoid over-tightening. Then remember to open raw water intake valve.

Oil dipstick is 2/3rd of the way back on the left (starboard) side of the engine. The engine is not known to use oil; nevertheless, a spare quart is in the supply cabinet. DO NOT OVERFILL. Mechanics check the oil levels weekly. Make sure dipstick is pushed down completely or oil pressure may cause damage.

To Start:

1. Assure throttle/gearshift is in neutral. The engine is set to idle very low. If it rattles too much press the button on the gearshift to disengage the prop and increase the RPMs.
2. Make sure engine battery key is plugged in and on (starboard aft cabin).
3. Press On. Press Start.
4. Listen/look for engine cooling water coming from aft

port end of hull.

5. Most engines idle too long, causing carbon buildup. So if in a marina, we start the engine just before loosing lines. Same protocol if hoisting anchor or untying from a buoy—minimal idle. If starting after sailing, we allow one minute at 1100 rpm, another minute or so in gear at 1500 before resuming cruising speed.

Running:

- Forward idle at 1000 rpm is enough to maneuver around a marina.
- 2200 rpm is economy cruise, about 6.0 knots, approx. 0.8 gph, range: 40 hours, 294 NM
- 2400 rpm is fast cruise, about 6.5 knots, approx 1.0 gph, range: 35 hours, 254 NM
- 2800 rpm is emergency max cruise, for short burst only.

We are careful to pause 1-2 seconds after the “click” into gear before accelerating, to protect the transmission. And, of course, we always pause when changing from forward to reverse!

Shutdown:

1. Cool at modest rpm for 2 minute after running at cruising speed, mainly if shutting down to start sailing (not necessary to cool down after entering a marina or anchoring, since the lower rpm will have cooled engine.)
2. Press the Stop button and then the Off button. Stop button turns off fuel supply. Do not turn off engine with only Off button, may cause damage to alternator diodes, need to shut off fuel supply and then turn off engine.

Engine Overheat:

There is not an engine temperature gauge on Meritage. The indtegrated tachometer / engine monitor guage will display an “over temperature” alert and sound an alarm. If the alarm sounds, or steam comes out the exhaust, please check the amount of water coming out the exhaust. If it is little or none, the most likely cause is eelgrass plugging the raw water strainer, located at the forward port end of the engine, which you saw on your Daily Engine Lookover.

(Note: raw water impellers are replaced annually as part of preventive maintenance.)

If the engine overheats with adequate water flow out the exhaust, check the coolant level in the engine. Normally, the coolant level in the overflow plastic container is at the “low” level. If below the “low” level, we add coolant from the cockpit lazarette, but not before.



13. Entertainment Systems

- Stereo

We have a B&G Fusion stereo with Bluetooth. The on ship network will connect your music sources to play over the speakers. The volume in the cockpit and the salon can be controlled separately on either the control panel in the navigation station or on the chart plotters. There is a CD player located under the stereo faceplate.

14. Fuel

Highlights

- The fuel gauge is at the electrical panel
- Fuel fill is starboard, aft of helm
- The fuel type is Diesel

Details

Fuel tank is located under the starboard aft stateroom. Consumption rates are listed under "Engine" above.

The tank holds 53 gallons (200 liters).

Fueling:

Compute your expected fuel usage to estimate how much you will need. Calculate # of engine hours used during your trip _____ x _____ GPH consumption.

NOTE: The tank makes an audible change in fill noise as it gets close. *Don't top off. But go slowly and keep an eye on it when you are near your expected fuel needs. Otherwise, in warm weather the tank can "oil can" and seep fuel out the top gaskets.* Please fill very carefully because it is difficult to tell when the tank is full. You need to put your ear to the tank, not fill "too fast", and be prepared. Knowing how far down the gauge is, and estimating about how many gallons the tank will accept, helps. (If the gauge reads $\frac{3}{4}$, your tank is nearly half gone, due to hull/tank curvature.)

The fuel tank is "V" shaped. The fuel sensor reads fuel level linearly. This means that the fuel level indicator reads higher than the actual fuel in the tank. We strongly recommend recording your engine hours at beginning of your trip (and each time you refuel) and computing your fuel consumption. The alternative to this is refueling when the indicator reads 50%. Based on my estimation and discussions with the installer it appears to me that there is actually only about 1/3 of a tank left when the fuel indicator reads 50%.

We have noticed that the heater will stop working at just less than half a tank. Heater uses diesel fuel from main tank.

16. Heads and Holding Tanks

Highlights

- **The toilet is salt-water fed**
- **Holding tank is gravity drain**
- **The seacock valve is blue and located under the sink.**
- **Fresh water flush of 5 gallons at pump out minimizes odors**

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

Here's what uses least water:

For *liquid* effluent:

- 1 - use the toilet
- 2 – set to "dry" to pump liquid from the bowl
- 3 – set to "wet" to flush in salt water
- 4 – End with "dry" to pump out remaining liquid

For solids:

Pump "wet" before above to prime water into bowl. May take more pumps to clear bowl.

The lever should always be on "dry" except when flushing, to prevent flooding the boat in case of valve failure. Move to "wet" to bring water in and out, then back to "dry" to empty the bowl. If it gets hard to flush, try "oil and vinegar". SJS staff puts vinegar and vegetable oil in the head cabinet. Vinegar sanitizes and reduces odors. A tablespoon of vegetable oil flushed will lubricate the valves and seals, making pumping much easier as well as more efficient.

Holding Tanks:

The holding tank is approximately 13 gallons located above the toilet. The holding tank is above the water line. Deck fitting is located above the holding tank for use at pumpout facility. Alternatively, when in Canadian Waters, the large seacock, accessed under the head vanity sink with blue handle, will evacuate the holding tank by gravity.

We urge you to use shoreside facilities for solid effluent when moored in shallow bays and marinas where solid effluent has a measurable adverse impact...or the holding tank. Be aware that discharge in deep water is permissible in Canadian waters, but USCG regulations prohibit such discharge in US Waters. The State Director of Salt Water Quality told us that urine from boaters has no adverse impact on marine waters.

If the holding tanks are overfilled, effluent will overflow through the vents, which gives foul odors and dirties the hull.

Depending upon the number and type of flushes above, and the number of people aboard, holding tank may hold about one to 1 ½ day's usage.

Last revised: 6/7/2017

17. Heaters

Highlights

- **Espar hydronic diesel heater with blowers in cabins, salon and head. Located under starboard helm, noise wakes light sleepers in starboard aft cabin.**
- **Auxiliary portable electric for use on shorepower**

Details

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

The on/off switch and thermostat is located next to the electrical panel. To turn it on, move the rocker switch (upper left) from "O" (for "Off") to "I" (for "Ignition/On"). We leave the thermostat dial on the third bar, which holds it nicely at comfortable room temperature. Fans controls are available in the cabins.

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

The cube electric heater is for marina use. It is normally stowed under the starboard settee.

18. Propane

Highlights

- **LPG circuit breaker switch is located at electrical panel.**
- **One propane tank is located in aft locker below port helm.**
- **For safety, we turn off the solenoid control located above Galley after each use**

Details

Propane tank located in aft locker below port helm is vented to the outside for safety. The San Juan Sailing staff weighs these tanks weekly to assure that you don't run out.

Troubleshooting:

If the stove won't start, verify a) propane valve is fully open, b) LPG circuit breaker is on at electrical panel, c) solenoid control above galley is on, d) stove knob is first pushed in, rotated ¼ turn counter clockwise to 9pm to the "ignite" position, held pushed in while using butane lighter or match, and after flame, hold until the thermocouple heats.

If BBQ doesn't start, verify a) in-line valve near propane tank is parallel to hose, b) BBQ control is pushed down and held at "start" before igniting.

Last revised: 6/7/2017

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

19. Refrigeration and Freezer

Highlights

- Ideal thermostat setting is when control points directly aft, adjust as needed
- Circuit breaker is located at the electrical panel
- Verify there is sufficient battery voltage (12.5V or more) to operate the refrigeration equipment all night.

20. Sails and Rigging

Highlights

- Full-battened main, 108% furling genoa
- All lines led aft
- Single line reefing from cockpit, 2 reef settings

Details

Meritage sails best when kept under 20 degrees of heel.

Mainsail: [Conventional Main with Stack Pack Description]

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

CAUTION: Keep bow head to wind and watch that battens in main sail do not get caught on Lazy Jack lines.

To hoist: After attaching halyard, we ease the a) mainsheet and b) boom vang.

NOTE: We found this the easiest way to hoist the main is as follows:

1 –Assure that the main halyard leads *inside* the Lazy Jacks. Leave the boom cover tied in front of the mast.

2 – With the boom cover top unzipped and the mainsail luffing *directly* into the wind (any wind in the sail makes hoisting and lowering difficult!), crew at the mast jumps the main halyard while a second crew in the cockpit takes up slack through the closed rope clutch with 3 wraps on the winch.

3 – When jumping the halyard gets hard, (normally about 70% up) crew member in cockpit puts halyard on self tailor on winch. Now uses winch handle to grind main halyard rest of the way.

We have trailing tell-tales on the mainsail leech to assist mainsail trim. If they don't trail straight aft when sailing upwind, most likely you need to back off (ease to leeward slightly) on the mainsail traveler.

Meritage sails best with a foot or so of mainsail luff (though sometimes hard to see with the full battens), and the tell tales flying straight.

Reefing the Main Sail:

Two large reef points are pre-rigged.

1 - Release the mainsail halyard to reef #1 or to reef #2. Both correspond to the color of the respective reef lines.

2 – Tension the single line reef moderately, then release the mainsheet and boom vang. Now fully tension the reef line until the new clew is close to the boom. Then re-tension the mainsheet and vang. (Using this method raises the boom sufficiently above the dodger.)

Note: Tuck the extra mainsail foot in the boom/sail cover if you like, but please don't bother with reef ties, which in our experience easily tear sails.

Reefing the Genoa:

Please do *not* adjust the luff tension. The primary sheet winches for the 108% genoa (Harken roller furling) are two speed Harken 53s.

The genoa fairleads are adjustable underway with the beige control lines in the cockpit...very handy to move the fairlead forward when sailing off the wind. We position the fairleads about even with the aft end of the nearby small deck hatch for close hauled (see photo), then move them forward-as we fall off the wind.

21. Showers and Sump Pump

Highlights

- **Shower in Head (sink)**
- **Transom shower**
- **Turn on Shower sump pump circuit breaker at electrical panel. Operates on float valve when using shower.**

Details

The shower is incorporated into the head. The vanity sink faucet extends to become the shower head. Depress the top of the shower head for spray. The Shower circuit breaker operates the sump pump in the shower. The sump pump operates on a float valve when using shower. Circuit breaker must be turned on at the electrical panel.

The transom shower features both hot and cold water. To operate, pull the T handle toward you. That brings water to the shower head. Turn the T handle left or right to adjust temperature. Depress the spring loaded top of the shower head for spray.

Note: Shower sump can become emergency bilge pump if water rises to that level.

22. Spares and Tools

Common Spares

Location: In cabinet above nav table.

Contents: oil absorbent pads, fuel filters, oil filter, impeller, light bulbs.

Heavy Duty Spares

Location: under forward stateroom mattress, forward end.

Contents: ~~spare float switch, spare electric bilge pump, spare domestic water pressure pump(s), spare engine starter, spare engine alternator, battery jumper cables, bag with spare oil and fuel filters, toilet one way check valves, spare shower drain pump.~~

(6/15/17 – not in boat yet)

23. Storage

The amount of storage is one of the appealing factors of this 2017 Dufour 382. We found these of greatest use:

Food:

1 – Salon center settee. Located opposite the galley counter, the island settee storage is convenient. There is door access on the port side of the settee, as well as two flanking storage areas on each end accessed by lifting the cushion.

2 – Under Port settee cushion. Two drawer compartments under the seat.

3 – Above galley counter cabinets. We store quite a bit of food in the cabinets above the refrigerator and freezer.

Clothes: Each stateroom has a hanging locker and drawers that we find more than adequate.

Tools: Under the nav seat.

Fenders: We store them under the Helm seats in the cockpit. Three fit starboard, one fits port.

Dock Lines: In the port cockpit locker.

Cooking utensils: In the forward galley under-counter cabinet.

Last revised: 6/7/2017

24. Stove and Oven

Highlights

- **2 burners, depress knob, turn left ¼ turn, use butane lighter**
- **Stove off, then LP Gas Control off, then LPG Circuit Break off**
- **Microwave for use on Shorepower only**

Details

The two burner gimbaled Force 10 propane stove must have the LPG Circuit Breaker turned on at the electrical panel, wait 10 seconds for blinking light on the LP Gas Control unit (above and to the left of the galley) to turn solid, then press on.

We suggest that whenever you turn off the stove burner, you shut off the LP Gas Control unit, which for safety, shuts off the propane flow at the tank in the cockpit locker.

To light a stove burner, *depress* the knob, turn ¼ turn to the left and light with the butane lighter. Note you don't need a flame...just the spark. Hold for a few seconds to heat the safety "thermocouple", then release. Turn the knob to the *left*, counterclockwise, to go from "high" 9pm to "simmer" 6pm.

To light the oven, open the oven door, turn the oven knob ¼ turn to the left, ignite the opening at the center of the bottom on the oven with the butane lighter. Keep the oven knob depressed for about 15-20 seconds as it heats the "thermocouple", watching the pilot to make sure it remains lit.

The microwave oven only operates on shore power.

25. Water

Highlights

- **Two 50 gallon water tanks [Option: if multiple tanks, show photo of valves]**
- **Deck Plates - One forward in anchor locker, one aft of port helm**
- **Avoid over tightening deck fill plates**
- **Tank selector valves are located under forward port settee cushion in salon.**

Details

One water tank is under the forward starboard stateroom bunk, the other under the aft port bunk.

The valves are under port forward settee in salon. **[photo]**

Last revised: 6/7/2017

Before starting our cruise, we check that one valve is closed, the other tank open, so we can monitor use and forecast when we need to top off at fuel docks or marinas. Use the forward water tank first for better weight distribution management.

Hot water is produced by three methods:

Values under starboard settee in salon change between heating water by engine and by cabin hydronic heater. Two valves. Both must be set together. The two valves should always be parallel to each other regardless of setting.

- Engine: Set both valves to 'engine' position. It takes about an hour under solid load to heat the hot water tank. (Running the engine at idle won't heat the water.)
- Cabin Hydronic heater: Water can be heated by running the cabin heater. Works very well! Set both valves to 'heater' position.
- Shorepower: No need to adjust any valves. Tank heats automatically when connected to shore power.