

MESSING ABOUT

NOTES FROM THE OWNERS

Welcome aboard MESSING ABOUT!

MESSING ABOUT is a 38-ft, 3-stateroom, 2-head (owner's version) 2000 Lagoon 380 catamaran - the world's most successful catamaran model, and a very safe offshore-capable boat (which makes it almost irresistible to literally go wherever the wind blows). In fact, this lovely lady is a repeat patron of Glacier Bay, Alaska. We just added her to the family in December of 2014, so we're still learning all of the ropes (yep, pun intended), but we already love her. She may have come to us used, but she's been very well cared for by her previous owners, and we're well on our way to transforming her into our own vision of a modern, comfortable, and seductive cruising catamaran. We truly hope you enjoy your time aboard her, and that she helps you make truly delightful lifetime memories of your grand adventures with your crew and loved ones.

Our favorite things about MESSING ABOUT:

1. The "airiness" and visibility aboard this lovely girl is ABSOLUTELY UNBEATABLE! The vertical salon windows and "galley-up" design make for INCREDIBLE panoramic views of the beautiful outdoors, with no one left trapped and "slaving" on chow in a below-decks galley. With the wide sliding door and window open, the salon and cockpit blend together as one, and the lucky cook is literally in the middle of the action.
2. Second to the above, the living space aboard this girl is wonderful. Her three staterooms allow everyone to retreat to their own private and quiet "corners" of the boat, and with the beamy stability of a catamaran, to sleep without worry of being woken up by anything other than the smell of fresh-brewing coffee the next morning. For that extra bit of pampering, the owner's hull is appointed with its own en-suite head, including a stand-alone shower stall with enough headroom for those of us over 6-ft. If needed, the dinette can convert to a very spacious and comfortable double berth. No wonder some people call these things "condo-marans"...
3. Not to be forgotten is the inherent stability of a multihull sailboat. With a beam over 21-ft, this girl sails flat enough for you to leave your drinks and dishes on the table, without worry of losing everything onto the floor in the wake of a passing ferry. This lovely lady slides over the chop with grace, and is a solid ride for those who don't like to be tossed about while inside or below decks. This makes for less fatigue on all aboard when beating to a windward destination, and leaves you and your crew with enough energy left to enjoy yourselves when the sailing part is over!

MESSING ABOUT's primary nuances (which is also discussed in detail later):

1. With the beamy stability mentioned above, the important thing to remember is that she won't heel over in her own dramatic way of telling you to reef. On a catamaran, you need to reef according to windspeed alone. As you surely know, unlike their beach cat brethren, today's cruising catamarans are designed to avoid capsize, but you should reef according to the reefing schedule to avoid over-stressing the boat. Don't be afraid to reef early and judiciously, after all, with all the comforts of home on board, who needs to rush?

2. *As a modern catamaran, with all the windage of tall decks and the maneuverability of twin counter-rotating screws, maneuvering is a drastically different experience than on a monohull. As a catamaran-qualified captain, you already know this, but it's worth the reminder.*
3. *This is a catamaran, in the beautiful, monohull-dominated Pacific Northwest. Be prepared for several admirers and onlookers, and maybe even some envy, but also realize that this girl isn't going to fit into every marina out there. Some marinas out there were just not designed to berth one of these babies, so be sure to call ahead to your chosen marinas. Offsetting this potential downfall is the shallower draft of the catamaran, which might just let you grab that mooring ball right off the beach, where all the mono-hullers only wish they could moor.*

Fair winds, stay safe, and have fun!

Brandon & Jamie Wieschhaus

MESSING ABOUT Specifications:

Year: 2000

LOA: 37' 9"

LWL: 36' 1"

Beam: 21' 5"

Draft: 3' 9"

Displacement: 16,008-lb (dry)

Mast height above WL: 57'

Fuel: 2x34-gal (68-gal total)

Water: 2x80-gal (160-gal total)

Holding: 2x20-gal (40-gal total)

TABLE OF CONTENTS

1. ANCHORS.....	4
2. ANCHOR WINDLASS	5
3. BARBECUE.....	6
4. BATTERIES & CHARGING	6
5. BERTHS	7
6. BILGE PUMPS.....	7
7. DINGHY	7
8. OUTBOARD	8
9. DODGER.....	10
10. ELECTRICAL PANEL.....	10
11. ELECTRONICS.....	11
12. EMERGENCY / SAFETY EQUIPMENT	14
13. ENGINES & HANDLING	15
14. FUEL TANKS	18
15. HEADS & HOLDING TANKS	18
16. HEADROOM.....	19
17. HEATER	19
18. INVERTERS	20
19. KEEL DEPTH.....	20
20. REFRIGERATOR/FREEZER.....	20
21. SAILS	20
22. SHOWER, HOT WATER & SHOWER SUMP PUMP	22
23. SPARES.....	23
24. STOVE/OVEN/MICROWAVE	23
25. WATER PRESSURE & TANKS	24

1. ANCHORS

MESSING ABOUT is equipped with two anchors. The **primary anchor** is a generously-oversized 60-lb Manson (Rocna-type) mounted on the bow with 150-ft of chain, plus 200-ft of nylon rode. The chain is marked beginning at 50-ft, and every 25-ft thereafter. A laminated card showing the marking system is attached to the underside of the STARBOARD mid-bow locker lid for easy reference, and is as follows:

50-ft:	YELLOW		
75-ft:	ORANGE		
100-ft:	WHITE		
125-ft:	WHITE	GREEN	
150-ft:	WHITE	YELLOW	
175-ft:	WHITE	ORANGE	
200-ft:	BLACK		
225-ft:	BLACK	GREEN	
250-ft:	BLACK	YELLOW	
275-ft:	BLACK	ORANGE	
300-ft:	BLACK	WHITE	
325-ft:	BLACK	WHITE	GREEN
MAX:	RED	RED	RED

The **secondary anchor** is a 15-lb Fortress (FX-23) with chain (5/16-in galvanized) plus 300-ft of nylon rode, found in the STARBOARD mid-bow locker.

The **anchor bridle** is equipped with a stainless steel hook, and is in the PORT bow locker.

The **stern tie line** is a 400 foot reel of floating yellow polypropylene line in the cockpit locker. (Please do not cut the line; it is all needed for certain places in Desolation Sound.)

The scope to use in the islands is 4-to-1 for the highest water depth you'll encounter in the spot where you choose to drop anchor. Check your tide data...to know how much water you may lose and how much water you will gain as the tide floods in and ebbs out during your stay. Since most coves are 15'-30' deep, expect to pay out about 60'-120' of rode. After you have paid out the suitable amount of rode, 2 minutes of reverse (in idle speed reverse) sets the anchor and tests its holding power. (Note other boats and points of reference on land. Are you moving? If not after 2 minutes, you've set your anchor successfully.) If you wish to sleep even better, throttle up to about 1500 RPMs in reverse for another 30 seconds to prove to yourself that the anchor is set well!

For storm conditions (sustained winds of 25+ knots), extend your scope to 7 or 10-to-1, provided you have room to leeward. Otherwise, set two bow anchors (using the secondary anchor, chain and rode) in a v-type pattern for extra holding power.

2. ANCHOR WINDLASS

Power is received from the PORT engine start battery. Always operate the windlass while the engine is running! Otherwise, the windlass will drain the start battery. The breaker (i.e., the “on” and “off” switch) for the windlass circuit is located in the PORT AFT stateroom. It is clearly labeled. To close the breaker (turning it “ON”), push the little lever on the bottom UP until the little white dot is hidden. Open the breaker (turning it “OFF”) by pushing the little red button, thereby popping the lever down and exposing the little white dot. The up-down controller for the windlass is located inside the STARBOARD mid-bow locker.

Deploying the Anchor.

To start, you’ll have to disengage the anchor keeper line on the bail of the anchor. This is simply a length of leech line tied to the anchor that keeps the anchor from tipping over the bow and taking an unexpected dive.

With a 60-lb anchor, it’s easiest and safest to pay out a little chain (maybe 1-ft) first, then manually nudge the anchor (watch your fingers and toes!) so that it’ll deploy nicely when more chain is let out, and then go back to the controller and pay out more chain. Try to get the anchor into the water without too much delay, to buffer and avoid too much “pendulum” action from boat motion. Once the anchor is in the water, use the electric windlass to lower the anchor to the bottom of the bay and deploy the desired amount of scope.

Retrieving the Anchor.

When retrieving the anchor, never use a windlass to pull the boat forward to where the anchor is set. (The windlass is not designed for it, would be a large draw on the batteries, and might cause serious damage to the attachment base.) Instead, head the boat under power toward the anchor while using the windlass to take up the slack in the chain. Once you get some chain back on board, you might find the need to blast some mud off the chain (or anchor) with the raw water washdown pump. The seacock for this pump is down in the STARBOARD bow locker, and is normally kept closed, except when in use. The pump is powered from the anchor windlass breaker, so you should only need to flip the switch to “ON” in the STARBOARD mid-bow locker, grab the spray nozzle out of the same locker, and blast away!

Also, when retrieving the anchor, don’t loiter too long with the anchor out of the water, without it being secured on the bow roller. Don’t rush it, but use the windlass and pay attention to binding and hang-ups. If the anchor gets hung up on the bow roller and you continue to press the “up” button on the electric windlass, you will probably damage the attachment base. Manual retrieval is only an option for those who enjoy lifting heavy weights in awkward positions. DO NOT use the windlass power to take up the last few inches of slack.

Take your time, the anchor chain dropping off of the gypsy sometimes bunches up under the windlass and you will likely need to push it down several times (with a mop handle) to the bottom of the chain locker to prevent the chain from jamming in the windlass.

Securing the Anchor.

Once the anchor is on the bow roller, be sure to re-secure the anchor with the keeper line. (The chain on the gypsy on the windlass should not be the only thing keeping the anchor from unexpectedly returning to the sea bottom!) After securing the anchor, immediately switch the windlass breaker “off” to prevent draining the PORT engine start battery should the windlass system decide to short out.

3. BARBECUE

The propane BBQ is fueled by a small accessory propane tank. The tank for the BBQ is located in the propane locker and has a hose attached to it. Remove the propane tank from the locker and place on the deck near the BBQ. Connect the hose to the BBQ, turn the control to the “on” or “light” position, and with the LID OFF, light the burner. (With the lid on, the BBQ tends to be hot and cook quickly, so tend your meat often.) *As a courtesy to the next guest, please use the wire brush attached to the BBQ to clean it after use.*

4. BATTERIES & CHARGING

The battery switches are located in the port aft cabin and the starboard aft cabin. In the port aft cabin the lower switch (no handle) is ground, the middle switch is for the port engine starting battery, and the upper switch is for the house battery bank. In the starboard aft cabin the lower switch is ground, the middle switch is for the starboard engine starting battery, and the upper parallels the starboard engine starting battery and the house battery bank (for use only if the starboard engine starting battery became too discharged to start the engine).

For normal operations, leave the battery switch(es) “on” (in the horizontal position) all the time. A battery combiner isolates the start battery, assuring all batteries are charged, while protecting the engine start battery from draw-down by house usage. The house bank has a combined capacity of 735Ah for house services.

House battery voltage can be checked on the digital meter at the bottom left of the electrical panel. You should not discharge below 12.0 volts before re-charging the batteries by (1) running the diesel or (2) plugging into shore power with the charger breaker “on”.

CAUTION: *Never turn a battery switch to “off” while the engine is running! This will blow the diodes on the alternator, and your batteries will no longer charge.*

5. BERTHS

MESSING ABOUT is ideal for 6 people, but she'll sleep up to 8 comfortably – four in the port hull (two forward and two aft), two in the owner's hull, and two on the convertible dinette table. The cushions for the convertible table are normally kept in each of the aft staterooms. The legs for the convertible table are normally kept under the salon bench seat.

Converting the Dinette into a Double Bed: Pull up on each side of the table, then remove the legs (they're attached by friction only). Insert the shorter legs (found under the salon bench seat) into the same holes. Then place the table back on the shorter legs and insert into the holes in the floor. The extra cushions are found in the aft cabins.

6. BILGE PUMPS

Please check the bilges each day, morning and evening. The bilges are accessed by lifting the floorboards in each hull's passageway. Please note that the refrigerator drains into the bilge, so most of the water that accumulates in the starboard bilge is from melting ice and condensation.

There are two electric bilge pumps and 2 manual bilge pumps:

- (1) The two **electric** bilge pumps are automatically controlled by float switches. They can also be turned on manually with the switches on the lower panel at the nav station. Please be sure the switches are left in the "auto" position.
- (2) The **manual emergency** bilge pumps are in the middle of the cockpit and the handles are in the port cockpit locker.

7. DINGHY

Messing About has a 10.8-ft inflatable dinghy, with aluminum floor boards, two removable seats, two oars and an outboard engine. (See "Outboard" section.) The dinghy should be stored on the davits, and the outboard should be stored on the stern mount when not in use. It's also best if the dinghy is secured with a couple of additional lines, to prevent the dinghy from swinging around on the davits from waves. If the dinghy and outboard are not stored this way, then you risk swamping and/or losing the dinghy and outboard.

Launching:

There are lifting bridles on the transom and bow of the dinghy, connected by clips to the davit lines, which are secured with clutches on the stern. To launch, check that the dinghy drain plug is in, then simply grab the davit lines, open the clutches, and slowly lower the dinghy to

the water. Best practice is to lower the transom first, then the bow – otherwise the oars may flop around awkwardly.

Operating:

Driving the dinghy is pretty intuitive, so the only real note here is that the dinghy can have a large wake, so come from plane to a stop slowly, or a following wave may swamp the dinghy.

Beaching:

Please take special care when beaching the dinghy (refer to the dinghy beaching procedure in your charter guest book). Most of the beaches you will land at are strewn with barnacle-covered, bottom-slicing rocks. When approaching the shore, weight the dinghy aft by leaning or moving the crew toward the back of the dinghy. Then offload everyone over the bow. Lift the dinghy above barnacle height using the hand lines on either side, and set it down gently on the beach. Also remember to secure the painter under a rock or to a large driftwood log – we have very large tidal fluctuations (so your dinghy won't float away).

Recovering:

Make sure the bow of the dinghy is to the port hull! This maximizes the distance between the dinghy and the Webasto furnace exhaust, when raised. Recovery is just the reverse of launching; clip the davit lines to the rings on the bridle, then pull the davit lines to raise the dinghy, and secure the clutches. Lift the bow first and then lift the transom, leaving the transom lower. **Make sure the plug is removed to allow drainage.** If assistance is needed while lifting the dinghy transom, you could tie on some additional line and try to use a winch.

8. OUTBOARD

Messing About is equipped with a Nissan 2-stroke 9.8-hp outboard. As a 2-stroke engine, it uses gasoline with a 2-stroke engine oil additive. The gasoline should already be premixed for you before your charter. The fuel tank is stored in the stern pocket below the davits, so you'll need to launch the dinghy, and then pull the fuel tank gracefully into the dinghy. If, somehow, you find yourself totally out of fuel and want to mix some more, there should be more 2-stroke oil in the starboard bow locker, mix with regular gasoline at a 50-to-1 mix.

WARNING – Gasoline fumes are explosive and a serious fire hazard if stored on a boat. Keep the spare gasoline containers in the stern pocket, and upright. NEVER store the spare gasoline containers in a locker, lazarette, or any other storage area on the vessel.

To Start

1. Attach the fuel connector to the engine connector, arrow mark towards the engine.
2. Loosen the air vent screw on the tank cap.
3. Feed fuel to the carburetor by squeezing the primer bulb until firm.
4. Attach the safety lanyard to yourself, and then put the clip end under the stop button on the front of the motor.

5. Put the shift lever (on the side) in NEUTRAL (vertical) position (it won't start otherwise).
6. Rotate the throttle grip to line up the index with the triangular mark.
7. For a cold start, pull the choke knob all the way out.
8. Slowly pull the slack out of the starter handle, then quickly pull the starter handle. (You shouldn't have to pull it more than 5 times.)

While Running

1. Push the choke back in shortly after the engine starts (after about 10 seconds).
2. Ensure that the cooling water is flowing out of the check port.
3. By now you're already familiar with the grip throttle and the shift lever, so there shouldn't be much mystery here: Rock the shift lever towards you for FORWARD, and back for REVERSE, throttle as necessary. **BE SURE TO SHIFT BETWEEN FORWARD AND REVERSE AT IDLE SPEEDS.**

To Shut Off

1. Be sure the throttle is at idle, and the shift lever is in NEUTRAL.
2. Shut off the outboard by pushing in the stop button (where the safety lanyard is clipped in), or just pull the safety lanyard until the clip pops off.
3. To avoid prop damage, shut off the outboard and raise it out of the water before you reach the shore. Pull the outboard forward and out of the water until it clicks at stays in place.
4. To put the outboard shaft back in the water, rock the outboard towards you, release the tilt lever on the side, and gently lower back down.

When Not in Use

1. Disconnect the fuel connector from the outboard, close the air vent screw on top of the fuel cap (top of tank) by turning it clockwise, and re-stow the fuel tank in the stern pocket.
2. Put the outboard back on the outboard mount on the stern and tighten both clamps.
3. Secure the outboard further by tying the safety lanyard to the stern rail.

Troubleshooting

If the engine won't start, review steps 1-8 above to make sure you've done all 8 steps. There is a spare spark plug and spark plug wrench in the tool box in case the engine won't start or is running rough. (A new spark plug solves myriad outboard problems. If you use the spare spark plug, notify your check-in skipper upon your return so a new one can be placed aboard for future guests.) If the outboard is running and you're heading toward shore, and the engine suddenly quits, it's usually that someone has forgotten to vent the fuel cap. If the engine is running fine but the propeller isn't moving, the shear pin is probably broken – just take the cotter pin out to remove the propeller and replace the broken shear pin (a spare pin is located forward of the shaft under the handle grip) and put the propeller and new pin back into place.

9. DODGER

Our dodger not only protects the crew from the weather when in the cockpit, but it has several stainless steel grab handles for safety.

Several plexiglass panels can be opened on hot days to get a refreshing breeze. Please don't take off the dodger. (It can be difficult to put back on.)

The dodger's plastic "glass" is vulnerable to scratching from salt crystals, especially after sailing into a challenging breeze. When salt spray on the glass dries in the wind, tiny salt deposits are left behind and tend to obscure your vision. Please avoid directly touching the glass with a damp rag or sponge. Salt does dissolve in water, but not as fast as you might think. The salt crystals remain un-dissolved for several seconds. It's like rubbing the glass with sand paper! To clean, please use generous amounts of fresh water from a pan from the galley and "flood" the glass to dissolve the salt crystals away. (Better yet, wait until you're at a dock where you can hose off the salt crystals. If the dodger glass is really clear, you can thank previous guests for their diligence. And we thank you too!

CAUTION: *We have found that most spray sunscreens react chemically with the plexiglass. So please inform your crew to spray sunscreen downwind of the dodger glass. And please don't lean against the dodger with sunscreen on your back and shoulders. Once that chemical reaction takes place, the glass is ruined and must be replaced (at a cost of around \$400).*

10. ELECTRICAL PANEL

Most switches at the panel board are self-explanatory, but some circuits are unique.

A/C (120V) Power. The bulk of the A/C outlets will only function while connected to shore power. The shore power A/C outlets will only work when the A/C Outlets breaker is in the "on" position. A few A/C outlets are powered by the 5000W inverter, and will only work when the inverter is turned "on". These outlets are for the microwave, and the TV/Blu-Ray player.

Battery Charger. The Battery Charger breaker switch must be turned "on" for shore power to charge the batteries.

Inverter. The 5000W inverter is controlled by a remote panel with a simple push button. For now, this remote is behind the electrical panel, waiting for a complete overhaul of the panel.

To operate, just open the panel and push the button. Please remember to keep the inverter off if it's not being used.

Chart Plotter. The circuit breaker for "NAVIGATION" is located on the electrical panel. This switch powers the chart plotter and radar at the helm.

Autopilot. The autopilot and all of the other instruments, with the exception of the VHF, are powered by an on/off breaker labeled "INSTRUMENTS".

Cabin Lights. Once you have turned on the circuit at the electrical panel labeled "CABIN LIGHTS", all lighting is controlled by rocker switches. There are three switches at the nav station, two for the two "halves" of the salon, and one for the nav station. Each cabin and head has a dedicated rocker switch for general lighting. The reading lights (in each berth) and the "task" lights (at the owner's desk, and in the heads) are controlled by fixture-mounted switches. The floor-level/stairway night-lighting for each passageway is controlled by black rocker switches found in the passageways.

Water Pressure. This pump pressurizes a small accumulator tank located beneath the galley sink, and it shuts down when the tank is at "working pressure". If you don't hear the pump start up when you turn it on at the panel board, hopefully it means that the system is at working pressure – you should hear the pump start again after you use some fresh water. (When no one is below decks, especially while motoring or even when sailing, turn off the water pressure breaker. Should you run a tank dry, the pump would continue to run until it burns out...and you'd never hear it running while everyone is in the cockpit.) Water tank selection valves are located under the galley sink and clearly labeled "PORT" and "STBD". **DO NOT RUN THE STBD TANK COMPLETELY EMPTY**, as the refrigerator circulates water to and from this tank to cool the compressor. To completely empty this tank risks damage to the circulation pump, and disables the refrigerator!

Shore Power A/C Circuit Breaker. The main breaker is an ELCI in the PORT engine compartment. It rarely trips, but if it does, unscrew the panel and turn it back on. The ELCI also has a reverse polarity warning indicator.

Running & Steaming Lights. Please be advised that night passage making is not permitted under terms of your charter agreement with San Juan Sailing. Only use in cases of reduced visibility (like fog or on the rare days in the Pacific Northwest when there's heavy overcast).

Anchor Light. Should be on all night in an anchorage. (It won't deplete batteries.)

11. ELECTRONICS

All of the electronics aboard *Messing About* were replaced in 2015, with a whole suite of brand new Raymarine products. The chart plotter/GPS is a 9-inch Raymarine e97. The depth

sounder, wind instrument, knotmeter, and autopilot are all Raymarine also. Until the radar replacement occurs in 2016, the radar is an older Furuno.

Cellular Telephones. *Messing About* is equipped with 12-volt accessory outlets that may be used for recharging your cellular telephone. One outlet is on the electrical panel face and is labeled “DC 12 volt”, the other is next to the microwave.

Depthsounder. Power on by flipping “on” the breaker labeled “INSTRUMENTS” at the navigation station.

The digital depthsounder will not give accurate readings beyond 400’. In deeper water, the sensitivity on the unit increases as the transducer tries to get some reading back. Consequently, you will receive many false readings caused by currents, changes in water temperature, fish, and seaweed. Use the depthsounder only as an aid to navigation in shallow water.

IMPORTANT: *The key to avoiding rocks is NOT the depthsounder – but knowing where you are at all times. (Rocks are the greatest navigational and safety hazard in the islands – but they are all clearly marked on the charts.)*

We do not recommend using the depthsounder’s alarm during night. Besides a fairly high battery drain, it’s likely to sound at inappropriate times such as late at night while fish are passing beneath the transducer. (Instead, consult the onboard tide data to determine whether you’re anchored in a safe location, considering how shallow your depth will become when the tide ebbs out of your anchorage in the middle of the night.)

Radar & Chart Plotter. *Messing About* is equipped with a Furuno radar (for now) and a separate 9-inch Raymarine e97 GPS chart plotter at the helm.

Power on the GPS chart plotter by turning “on” the breaker labeled “NAVIGATION” at the navigation station. Then, if necessary, press and hold the power button on the unit until it turns on the display. To shut down the unit, simply switch the breaker at the panel, or press and hold the power key.

The radar is also powered by the breaker labeled “NAVIGATION” at the navigation station, and then by pressing its respective power button.

We recommend that in addition to using your PRIMARY navigation aids – namely, the Maptech waterproof chart book or the roll charts (with the most active “killer rocks” marked in red) – up in the cockpit while underway, you also utilize the chartplotter for added safety. It helps you to see if you are where you think you are on the chart book or paper charts. If someone asks, “Where are we?” Within 3 seconds, you need to be

able to point to the chart and show them the vessel's precise position. If you can't, you're in danger of hitting a rock.

The only time when the chartplotter becomes your primary navigation tool is when you're in a "tight spot" like going through a narrow pass or approaching the entrance to a secluded cove. (With the chartplotter, you can "zoom in" to make something that's the size of a dime on a paper chart into the size of a paperback novel or larger on the screen. You can see more detail and, importantly, any hazards in the area. Your boat's position on the chartplotter is accurate to within 3 meters – about 10 feet.)

You should have little need of the radar except for the highly unlikely event that you are suddenly enveloped by fog, which is rare in this area. The fog that we've encountered in the islands usually forms in the wee hours of the morning and burns off by mid-day. So if it's a little soupy after breakfast, we put on an extra pot of coffee until it lifts. Never depart from a safe location into the fog! To do so, even with radar, would be contrary to prudent seamanship. FYI – Fog becomes "reduced visibility" when you can see ¼ mile (about 4 football fields) in all directions. It is safe to proceed CAREFULLY in reduced visibility using your radar to "see" beyond the haze, but be sure to look up from the screen about every 10 seconds and use your eyes to scan the horizon forward, behind, and side to side. A motoryacht, tanker or freighter traveling at 20 knots takes only 39 seconds to travel ¼ mile! You need to see these fast-moving vessels sooner-rather-than-later so you can prepare, if indicated, to quickly take evasive action to avoid an impending collision.

Knotmeter. Power on by flipping "on" the breaker labeled "INSTRUMENTS" at the navigation station. Speed is indicated in knots or nautical miles per hour. (For comparison, 7 knots is approx. 8 statute mph.)

If the digital knotmeter shows a reading of "0.00" while underway, the paddlewheel is most likely clogged with a piece of eelgrass. Sometimes it will float off overnight. You can also try removing it by traveling for a short distance in reverse. The impeller is located beneath the port forward berth. (It's not recommend that you try to remove the impeller to clear it, unless you are VERY experienced in such things. An open hole in the hull is a scary situation, and if not plugged quickly, it can jeopardize the boat and the safety of your crew.) If the knotmeter is temporarily "out of service", the GPS input to the chart plotter provides an alternate and quite accurate speed indication called SOG (speed over ground).

VHF Radio. The remote access microphone (RAM), when plugged into the outlet in the cockpit, controls all radio functions of the unit mounted above the nav station from the steering station. The VHF at the Nav station is turned on (after the VHF/HIFI breaker on the electrical panel is "on") by holding down the "VOL/PWR" knob (upper right corner) for 3

seconds. There is also a “PWR” switch on the RAM to turn on the system at the helm. We find this very convenient while entering and leaving moorings.

To listen to the weather reports (should be done in the morning before you head out and ½ hour before your final destination), push the “WX” button on the radio. Scan the weather channels for the one with the best reception before sailing in the morning and prior to anchoring for the evening. This is generally a light wind region but weather changes can be sudden. Listen for the “inland waters of western Washington” Both cover the San Juan Islands and the Canadian Gulf Islands. You will also hear “Strait of Juan de Fuca” (south of the San Juans), “Georgia Strait” (north), and “Rosario Strait” (runs through the eastern part of the San Juans).

You should monitor channel 16 (the hailing and distress channel) during your cruise. You may save a vessel or a life. You may hail vessels on channel 16, but after establishing contact on channel 16, ask the skipper of the other boat to switch to working channels 78, 79 or 80. San Juan Sailing monitors channel 80 during office hours (closed Sundays). If you need a review of VHF radio protocol, you’ll find information located in the onboard Charter Guest Reference Notebook. (By phone you can reach the San Juan Sailing office at -800-677-7245 or SJS’s owner, Roger Van Dyken, at 360-224-4300 on cell or 360-354-5770 at home.)

In case of a distress where you can no longer stand by the radio to pass your mayday, use the red distress button on the radio. First flip up the cover, then press the button. GPS input is automatically coded into your signal.

12. EMERGENCY / SAFETY EQUIPMENT

First Aid Kit: A complete first aid kit is located in the vanity cabinet of the starboard head. Band-Aids and antibiotic ointment are located in each of the medicine cabinets for minor scrapes or cuts. Please note any usage of these items so they may be replaced for the next Guest.

Flares. Visual day/night distress signals are located in the orange cylinder in the cockpit locker.

Fire Extinguishers. There are four fire extinguishers. One is located high above the nav station and there is one in each of the sleeping cabins. **In case of an engine compartment fire DO NOT open the lid to the engine!** There are openings (with plastic caps) in the bulkheads between the aft staterooms and the engine compartment specifically designed for use with a fire extinguisher. Remove the cap and place the extinguisher nozzle into the opening before activation of the extinguisher.

Emergency Tiller. It looks like a metal pipe, with an “elbow” bend in it. It’s located in the PORT bow locker. There are two rudder post attachment points, one at the top of each sugar scoop, under the deck fittings. To remove the cover, insert a winch handle in the star-shaped fitting and unscrew. You should only need to use one, since both rudders are connected by a linkage.

13. ENGINES & HANDLING

As mentioned before, maneuvering *Messing About* is a drastically different experience from a monohull. *Messing About* has two, widely-separated, counter-rotating propellers, and therefore has no prop walk, and can turn about her mast, within her own length. Most marina/close-quarter maneuvering of the boat can be done with the rudders locked amidships, and all control inputs done with thoughtful “bumps” of the port or starboard throttle in forward or reverse. Note that the rudders are ahead of the saildrives, so briefly “prop-washing” the rudders to “kick” the stern to one side, is NOT an option. If you are seasoned enough, and the situation requires you to do your maneuvering with the rudders unlocked, be sure to hang on tightly to the wheel while moving in reverse. If not, water pressure on the aft edge of the rudders will slam the rudders over to one side or the other - and that’s very hard on the steering mechanism.

Docking

Messing About has her helm on the port side, so we find it easiest to dock on the port side, stern-in, if possible, and we try to dock as slowly as possible, subject to wind and current conditions. Remember, you’ll need to use your engines to help stop the boat - it’s very difficult and often impossible for people holding lines to stop the forward momentum of a vessel as heavy as a cruising sailboat. Clear communication between skipper and crew on distances to the dock, and when to cleat which dock lines, is CRUCIAL. In general, spring lines can be a real key, think this through before approaching (or departing). Once you get an aft spring line tied off from the stern, you can fully exploit the twin screws - gentle reverse (or neutral) on the inside engine, and gentle forward on the outside engine will lightly snug the boat right up to the dock, and can hold her steady until all lines are secure.

Never turn off the engine until the vessel is securely tied at the dock.

When coming into our docks in high winds or if you’d just like a little assistance upon arrival, simply hail “San Juan Sailing” on VHF channel 80. We’ll be glad to offer some “coaching” and/or catch your lines. In fact, most marinas in the islands will help you if you hail them and ask for assistance. Asking for docking assistance, especially in windy conditions or with an inexperienced crew, is a sign of prudent seamanship.

Starting

1. Check the oil levels. The dipstick for each engine (don’t forget, there’s TWO engines) is accessed thru the hatch at the top of the respective sugar scoop, and climbing down inside. The dipstick is on the starboard side of the engine. There is a wide gap on the dipstick between the full line and the fill line. **Do not overfill.** Use the onboard spare oil to add no more than a cup at a time. Then, after waiting about 2 minutes for the oil to trickle down to the pan, check the level again. Overfilling is a bad thing to do to a diesel. The excess oil will escape somehow, perhaps by blowing the head gasket. Also, if the dipstick indicates no oil the first time you check it, reinsert and try again - the correct level will show when the air lock bubble is broken. Expect the oil to be blacker than that of a

gasoline powered automobile engine...this is normal for a diesel after only a few hours of operation.

2. Check the coolant level...anywhere between the two lines (high and low) on the overflow reservoir is "good".
3. Since you've taken the time to climb down into the engine compartment, check for belt tightness and leaking fluids.
4. Look over the stern for kelp, logs or branches that could foul the propellers.
5. Make sure the gearshift is in neutral (straight up), then press the button in the center of the shifter (on the side), and advance the throttle slightly. (This will leave the transmission in neutral, but allow throttle positions above idle.)
6. If the engines are cold, it might be necessary to heat the cylinders up for about 20 seconds using the glow plugs. If so, rotate the key counter-clockwise to activate.
7. Insert the key and turn it clockwise, to the first click.
8. Turn the key further clockwise to start the engine. Expect the engine to start in 5 seconds or less. If the engine doesn't start after 10 seconds of cranking, turn the key counter clockwise to the off position. Wait 15 seconds and try again. If the glow plugs weren't used on the first attempt, now is the time to reconsider. There are also auxiliary priming pumps (only enabled when the respective key is in the "ON" position) that can be activated with momentary push button switches at the helm, just a second or two should ensure a good prime. The switches are also illuminated to show when the button is activated.
9. After the engine starts, release the key, and check for water gurgling out the exhaust. If there's no spurts of water coming out of the respective exhaust after about 30 seconds, then there's something wrong with the seawater cooling, and the engine should be shut down and the problem investigated.
10. Adjust throttle to 1000RPM. While the engine warms, check your fuel level. *Messing About* has two analog fuel gages at the helm, one for each engine.
11. Please allow 5-10 minutes of warm up before placing a load on the engine. It is very hard on a diesel to be placed under load when cold.

Proceeding in Forward / Reverse

After returning the throttle to the neutral position (straight up), the clutch pin should pop back out, and you may engage forward gear by pushing ahead on the throttle or reverse gear by pulling back on the throttle. To keep the transmission "healthy", please remember to pause 2 seconds (say "one and two and") in the neutral position when shifting from forward to reverse and vice versa.

Operation

27 HP Yanmar 3 GM series engines are very reliable. Cruising speed is **6.5 knots** at **2400 RPM**. Fuel consumption is approximately 0.5 gph per engine at 2400 RPM.

Please do not exceed 3000 RPM because it's hard on the diesel and fuel consumption goes WAY UP (at very little increase in actual speed). We find the engine will have least vibration at 2800 RPM...and at some points below 2800 RPM. For those really looking to save some diesel

fuel, super-economy cruise speed was found to be at 1900 RPM, getting 4.7 knots on 0.25gph per engine.

To avoid the possibility of sucking air or sludge when the fuel level approaches 1/4 of a tank, refuel when the fuel drops below 1/2 full and before it reaches 1/4 full.

Engine Overheat. If the buzzer sounds while the engine is running, about 999 times out of a thousand it's no more serious than eelgrass plugging up your raw water strainer. The best upfront solution to this problem is prevention—keep an eye peeled for eelgrass mats, especially along those “soapy” looking tide and eddy lines in the water. And don't run over it. When eelgrass gets sucked into the engine cooling water intake, it jams at the raw water strainer.

To clear the eelgrass from the raw water strainer (above the water line in the engine compartment in Messing About), simply twist off the clear screwtop and extract the eelgrass and toss it in the galley garbage can. Replace the lid and hand tighten by turning it clockwise until the lid is seated firmly on the rubber gasket. Then restart the engine.

If upon restarting the engine overheats again, check the seal between the strainer, the rubber gasket, and the lid. If the strainer is drawing air, it won't draw water. If needed, open and then retighten the lid on the strainer...and check to make sure the rubber gasket is in place in the lid (and not lying in the bilge.)

If the above fails to solve the problem, call San Juan Sailing for assistance.

There may be other reasons you hear the buzzer. If you lost oil pressure, the oil icon warning light will light up, so check which light is showing red. If it's the oil light, shut down the engine, check the oil level, and contact San Juan Sailing. The alarm buzzer is more likely to indicate engine overheating, and the temperature icon light will light up. Before you shut down the engine, check for water gurgling out the exhaust. If you have a “wet exhaust”, check the coolant level in the overflow reservoir bottle and if none is seen, add enough to reach the top level line on the bottle. (ONLY AFTER THE ENGINE COOLS DOWN, you might remove the cap on the engine block and add coolant.) And check the bilge for a light green liquid. If found in the bilge, call San Juan Sailing. If the coolant reservoir bottle is full, check to see if the engine threw a belt. Without a belt on the raw water pump, the coolant won't circulate and cool the engine. (Replacement belts are located in the engine spares kit.) One other possibility is that the impeller in the raw water pump has failed. While they are replaced each spring with a new one, it's still possible that a hard object may be drawn in and break off an impeller blade. (A replacement impeller is found with the engine spares.) Call San Juan Sailing if you suspect you have an impeller problem.

Engine Shutdown. Remember--do not shut the ignition key while the engine is running! (This can damage the diodes on the alternator, and the batteries will no longer charge. If you accidentally do this, turn the key back to the “on” position as soon as possible.) Instead, first bring the engine to idle and the gearshift to neutral. Allow the engine 5 minutes to cool down. Then pull the fuel cutoff handle located at the top of the steering pedestal. After the engine stops, turn the key to the “off” position (turn it counter-clockwise) and remove key.

14. FUEL TANKS

Messing About has two 34-gallon fuel tanks, one for each engine. The engines consume approximately ½-gallon of diesel per hour (each).

THE TWO FUEL FILLS ARE LOCATED AT THE PORT AND STARBOARD AFT STEPS.

Please be very careful when fueling. Never allow maximum flow from the filler hose. If you do, the fill tube will surge and diesel will spill from the vents onto the side and onto the deck. It takes only a few drops of diesel fuel in the water to create a sheen and subject you to a Coast Guard fine. Fill slowly and carefully. Check the side vent and, with dish washing soap, wipe up any excess fuel to avoid yellowing the hull and stern and polluting the water. Also be very careful of drips when removing the hose. Diesel and shoe bottoms are a very slippery and dangerous combination. After wiping, please use soapy water to scrub down any drips so it does not stain the fiberglass.

Put your ear down to the fill hole and listen to the diesel flow. When the pitch changes and gets higher and higher, the tank is likely full and you're now filling the hose between the tank and the fill hole. Avoid a fuel spill – STOP! Check the fuel gauge. If the gauge is not on "F", continue filling. When you think you're finished fueling, check the fuel gauge one last time to make sure it's reading "F". That way, San Juan Sailing will not charge you a \$50 fueling charge (plus the cost of fuel).

Note: Unlike automobile fuel gauges, fuel gauges on boats are notoriously inaccurate, especially on the low end. Therefore, whenever the fuel level drops below ½ full, you should refuel at your next opportunity. NEVER let the fuel level fall below ¼ full or you're in danger of running out of fuel. (Towing and the cost of a mechanic to bleed the air from the fuel lines is an expensive proposition for a charter guest.)

15. HEADS & HOLDING TANKS

Messing About has two electric heads, and two 20-gal holding tanks, and will need to be emptied frequently to avoid an overflow of sewage or, worse yet, an exploding holding tank...a real "vacation-ruining" event! (San Juan Sailing staff will discuss holding tanks, overboard discharge and pumpouts upon your arrival.)

PORT HEAD: The port head discharges directly in to a holding tank (no y-valve). To empty the holding tank either use a shore suction pump out at the port side deck (deck plate labeled "waste") OR, where legal, open the valve under the sink that is labeled "flushing outlet" to gravity drain the tank. Close the "flushing outlet" valve when finished emptying the holding tank.

STARBOARD HEAD: There is a y-valve located in the starboard panel of the shower. This valve diverts waste from the electric head either in to the holding tank or directly overboard (where

legal). If you have chosen to set the y-valve to pump the waste directly overboard then the “waste out” valve located just forward of the head will need to be open to allow the waste to pass through the hull. To empty the starboard holding tank either use a shore suction pump out at the starboard side deck (deck plate labeled “waste”) OR, where legal, use the gravity drain to empty the holding tank overboard. To operate the gravity drain open the valve labeled “TANK DUMP” just forward of the head. Close the “TANK DUMP” valve after use.

If the toilet pump starts to resist your flushing effort, don't force it! Exploding or leaking sewage is most unpleasant! Search out the problem and correct it.

If you pump out the holding tank at a shore facility, please fill it with about 5 gallons of fresh water through the deck fitting to rinse, and then pump it out again. Thank you!

Offshore sailors have a rule: “Never put anything down a marine toilet that hasn't been eaten first.” And that, of course, includes feminine items. In fact, offshore sailors do not even put soiled toilet tissue down a marine head. They simply deposit soiled toilet tissue (and feminine items) in a receptacle such as a waste basket with a liner bag or a ziplock baggie, but not down the toilet. We and San Juan Sailing highly recommend you follow this rule. And since we've been recommending this, we've had almost no incidents of plugged heads!

16. HEADROOM

The headroom on *MESSING ABOUT* (taken centerline in the main salon) is 6'7".

17. HEATER

The diesel-fired Webasto cabin heater will make the interior “toasty” within 10-15 minutes. The heater control is located in the salon, forward and port of the settee. The toggle switch to the left of the thermostat turns the system on or off. With the toggle switch on, and the thermostat set to “Heat”, adjust the thermostat to the desired temperature. The salon, and each of the three cabins, have their own fan controls, either high, low, or off. These controls are black toggle switches near the floor, adjacent to the vent covers. Note: It takes about 5 minutes for the heater to “cycle up” and get hot. Turning the toggle switch to off will turn off the unit, however the fan will continue to run for about 5 minutes while the unit is cooling down and cycling off. The heat is dry, comfortable, and on those rainy days or cool evenings, makes a huge difference in cruising comfort!

NOTE: The heater currently takes its fuel from the PORT engine fuel tank, so the port tank will get used up faster than the starboard tank.

When it's cool, we recommend warming the boat before turning in for the night, with the last person to go to bed instructed to turn the diesel heater off before retiring.

(Otherwise, the boat will get too hot and the electric fan in the diesel heater will drain the house batteries. The down comforters will keep you warm in bed.) Then, the first one up in the morning can simply turn the cabin heater back on.

18. INVERTER

As mentioned earlier, *Messing About* is equipped one 5000W inverter. For now, the inverter powers two dedicated outlets, one for the microwave/coffee maker, and another for the TV/Blu-Ray player. The inverter has a remote control switch behind the electrical panel, to turn the inverter on.

19. KEEL DEPTH

Messing About has two shoal-draft keels and draws 3'9" ...so figure on 6 feet to be on the safe side.

San Juan sailing strongly recommends that you always maintain a minimum of 10'-12' under the keel at all times, both underway and at low tide on anchor.

20. REFRIGERATOR/FREEZER

The well-insulated refrigerator (1'3" wide, 2'6" long, 1'8" deep) must be turned "on" at the electrical panel. The temperature thermostat control dial (with 1 through 7, 7 being coldest and will probably freeze everything) is located inside the refrigerator, along on the port side. There is a small freezer compartment in the back of the refrigerator. The freezer is 1'3" wide, 2'6" long, and 1'8" deep. Note that the refrigerator compressor is water-cooled, and that it uses water from the STBD freshwater tank for cooling. **NEVER RUN THE STBD FRESHWATER TANK COMPLETELY EMPTY**, or else you risk circulation pump damage and disabling the refrigerator.

We recommend running the refrigerator at all times to avoid it becoming smelly. You may want to turn the thermostat down to "3" (the medium setting) at night. This will help conserve house battery power. Then turn it back up to "5" or "6" during the day.

21. SAILS

Messing About is a delight to sail. Her sail plan (a medium-sized furling genoa and fully-battened main) is great for single or short-handed sailing. Once she has way, *Messing About* is easily steered with small rudder changes. Her perfect breeze is 10-20 knots, with no appreciable heel! Full sail can be carried in winds up to 20 knots. If you reach the edge of your comfort envelope sooner, don't hesitate to shorten your sails. Remember, "Reef often and reef early." You can always shake them out if you later decide you've been too conservative. When it's time to reef, **ALWAYS REEF IN ACCORDANCE WITH THE REEFING SCHEDULE!!** The Lagoon owner's manual has an explicit warning about how deviations may cause the mast to

break, and that a 100% jib with a double-reefed main is to be “*imperatively prohibited*”! Other useful information from the manual is to avoid sailing below 150-degrees to the wind, and to avoid contact between the battens and the shrouds, as this will QUICKLY wear the sail.

Note: The port winch is electric. There is a resettable breaker labeled “Electric Winch” that is located in the port aft stateroom. Push the red button to turn the breaker off. Lift the plastic lever (which will drop down to a 45 degree angle when off) in to the horizontal position to turn the breaker on.

Mainsail

The mainsail is roached and fully-battened, with a Cradle Cover, double-ended main sheet, and two pre-rigged reefing lines. It should be noted that *Messing About* does not have a boom vang (since the traveler can run so far to either side), and there is no outhaul.

To deploy the main:

1. Ensure the winch breaker in the port aft cabin is “ON”.
2. Steer head-to-wind and maintain.
3. Unzip the Cradle Cover.
4. Attach the halyard to the head of the sail, be sure to lead the halyard fair, and not foul on the lazy jacks.
5. Release the reefing lines (starboard clutches) and mainsheet (either clutch – it’s a double-ended main with a clutch on both sides).
6. Put a few wraps of the main halyard on the port winch and begin “bumping” the main up. WATCH FOR BATTENS SNAGGING IN THE LAZY JACKS – THIS CAN RIP THE SAIL! If winching gets hard or slows, check to make check to make sure nothing is caught or stuck.
7. Fall off and sheet the main and you’re sailing! (Now you’re ready to deploy the head sail.)

Reefing the Mainsail:

“Reef early and reef often.” This will keep your crew comfortable and reduce stresses on the boat, and the captain. Reefing the main is easy, and is all done from the cockpit. Here's how.

1. De-power the main (by heading up or heaving-to).
2. Let the tension off the main sheet.
3. Slacken the main halyard, and haul on your reefing line until the reefing point you want is a few inches above the boom.
4. Close the clutch of the respective reef.
5. Re-tighten the main halyard.
6. Take in the main sheet.

Recovering the Mainsail:

When letting the mainsail down, please don't simply pop the halyard clutch open and let the mainsail and battens crash onto the boom – it abuses the topping lift. A CONTROLLED lowering is all we ask for. We haven't seen any need for flaking or dressing the mainsail as it enters the Cradle Cover. Also, there's no need to pull in the reefing lines, just let them slack and lay into the Cradle Cover, it will make hoisting the main easier next time.

Headsail

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

Reefing the Headsail – Simply ease the jib sheets (keeping control of them) while pulling in the jib furling line until only the amount of sail you desire is deployed. You should not have to use the winch to furl the jib. If you cannot furl by hand, forcing it with the winch will only exacerbate the problem. Instead, investigate to see why it will not furl in naturally.

22. SHOWER, HOT WATER & SHOWER SUMP PUMP

Hot water is stored in the insulated tank. It takes about 30 minutes of running the engine under load to get the water hot. When on shore power, you can heat your water electrically by turning the "water heater" switch on the A/C panel to the "on" position. It takes about an hour to heat the water electrically. The water tank is also heated when the furnace is running.

CAUTION: The engine heats water to scalding temperatures! So please BE CAREFUL!

To operate the shower sump pumps:

1. Turn the "shower drain" breaker to "on" at the electrical panel.
2. Activate the pump by pushing the switch near the washbasin in the head.
3. When finished with your shower, turn the breaker off.

Experienced cruisers know the sailor's shower: get wet, turn off the water, soap up, rinse off. (If the shower basin overflows, you're using too much water.)

On warm, sunny days, an alternative to the below decks shower is the swim platform shower (with hot and cold water) located next to the swim ladder. This is also a good way to rinse off salt after swimming or dirt after going ashore.

23. SPARES

Messing About is equipped with engine and general spares. They are located in plastic containers under the settee in the salon.

A tool kit is located in the port forward cabin, in the storage compartment under the porthole.

24. STOVE/OVEN/MICROWAVE

The propane stove has two burners and an oven. Propane is a hazardous gas, and requires caution. For your safety, please follow these procedures:

1. Open the faucet-like hand valve at the propane tank all the way open.
2. Make sure all stove control knobs on the stove are in the "off" position.
3. Turn the electric solenoid switch (labeled "LP Gaz/Gas") located on the electrical panel to "on". A red light will appear.
4. Light a match or butane lighter, push in the stove control knob and turn to the left to high. The burner should light immediately. Hold the knob in for 2-3 seconds (warming a thermal couple) and release. You may then operate the knob like a normal stove.
5. When finished with the stove, shut off the burner(s), then shut off the solenoid switch. (What little propane remains in the line from the tank to the galley is insignificant, and even if this tiny amount of propane were to leak into the cabin, it would not cause a problem.) No need to shut off the propane tank during the day.
6. At night, it's recommended that you turn off the propane tank with its faucet-like hand valve. That way, should the solenoid valve fail, there's no chance that propane will leak into the vessel. (Since propane is a deadly gas, you'll sleep much better!) Then, the first one up in the morning can go out to the tank and turn it back on to start the water boiling for the coffee!

To operate the oven, follow the same basic procedure as above, except to light the oven, place a match/lighter thru the hole at the bottom front, near the center.

Please note that the propane tank and both propane valves (the hand valve and the solenoid valve) are located in the propane locker in the starboard cockpit locker, which is vented and isolated from the rest of the boat. Any leaks there will move down, out, and away from the boat.

While the propane tank normally lasts for 4 weeks or more, San Juan Sailing's staff tops them off every 2 weeks, so you'll have plenty for you cruise!

If cooking underway, use the fiddles that hold the pots/pans on the burners. If you have something in the oven, please ensure the oven door is secured so the contents cannot slide out onto the galley sole (or someone's feet). A latching mechanism is built into the oven door.

WARNING: *Avoid cooking in high wave conditions. A catamaran is stable, but it's prudent to be "extra safe" when we're talking about hot liquids and people in the same space.*

To operate the microwave, switch the inverter "on" with the remote control switch at the electrical panel, and set your desired cook time. The microwave is pretty intuitive. Be sure to switch the inverter off when not planning to use the inverter.

25. WATER PRESSURE & TANKS

Water pressure. The fresh "water pressure" switch is located on the electrical panel. Push the breaker "on" to activate pump.

It's okay to leave on while someone is below decks. But please turn "off" when motoring or sailing. You could burn out the domestic water pump should one of the tanks run dry as it tries in vain to pump water to build pressure (and you would not hear the pump running continuously over the sound of motoring or sailing).

Water tanks. *Messing About* has two 80-gallon water tanks, one in each mid-bow locker. The tanks are large enough that they may surprise you with how long they'll last you. Selection valves are under the galley sink and are clearly labeled "PORT" and "STBD". As mentioned above, **DO NOT RUN THE STBD TANK COMPLETELY EMPTY**, as the refrigerator circulates water to/from this tank, and if emptied, WILL damage the pump and disable the refrigerator. The water tanks are fitted with sensors and connected to the tank monitor system at the nav station for convenience, however, when in doubt, use the vinyl tube "gauge glasses" in the mid-bow lockers for an indicator of tank level.

Use only one tank at a time – do not leave both valves open.

State parks have no pressurized water to refill tanks, but all points of civilization do. If your crew does not let the water run continuously while they brush their teeth, shave or shower, you shouldn't need to refill too often.

Enjoy your vacation aboard *Messing About*!