

NOTES FROM THE OWNERS OF

“MORNING LIGHT”

Welcome aboard “MORNING LIGHT”

She’s a 2-stateroom, 2006 Catalina Mark II. We bought her for her enjoyment of a true sailing vessel. We hope you will appreciate the gear and equipment choices we made. And we hope you’ll enjoy sailing her and cruising the islands as much as we do.

“MORNING LIGHT” is very well balanced and sails beautifully. She keeps her speed in light air and is very stable in heavy weather.

Our 3 favorite things about “MORNING LIGHT”:

- 1. She has a big cockpit and is very roomy below decks too, with a large dinette and a comfortable opposing settee for great “conversation pit” seating. And the U-shaped galley allows the “chef du jour” to face forward and join in the fun!*
- 2. Her two staterooms allow everyone, two singles or two couples, to have nice privacy and a quiet place to sleep uninterrupted. (The dinette converts to a spacious and very comfortable double, if a third sleeping area is needed.)*
- 3. With her fast hull and battened main sail she sails like a dream in a fresh breeze. Now she’s extra exhilarating!*

“MORNING LIGHT”’s primary nuances (which will be discussed in greater detail in our notes):

- 1. The visibility from the helm is a bit limited due to the dodger and bimini configuration.*
- 2. She walks slightly to port in reverse (like most sailboats do), but we’ve experienced a lot worse. Just get a little sternway, put her in neutral, and the wheel and rudder take over and she’ll back to starboard nicely.*
- 3. She’s so well engineered that it’s difficult to “bury the rail” in under 25 knots. The non-thrill seekers in the crew think that’s good! But it can be done if you push her a bit. So have a camera ready when you’re in a blow. Everyone loves THAT photo!*

We’re immensely pleased with this well-built and beautiful vessel and look forward to sharing her with you, our guests. We hope you’ll love “MORNING LIGHT” as much as we do and we thank you for taking special care of her.

Happy Sailing!

George Heritage, Owner

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“MORNING LIGHT” Specs:

Year: 2006

LOA: 36'

LWL: 37' 5"

Beam: 11' 11"

Draft: 6' 3"

Displacement: 14,100 lbs (dry)

Mast height above WL: 59' (with antenna)

Fuel: 25 gal.

Water: 82 gal.

Holding: 17 gal.

1. Anchors.

“MORNING LIGHT” is equipped with two anchors, Both are located in the forward anchor locker. The primary bow anchor is a 33 # Lewmar Claw (Bruce) with 250 feet of 5/16” chain. The chain is marked with yellow and red paint at 50-foot intervals.

The **secondary stern anchor** is a 12 # Danforth and is in the forward anchor locker. The 50 feet of chain and 250 feet of nylon rode are in the port cockpit locker.

The **stern tie line** is a 600 foot reel of line for stern ties in the aft 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 you 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 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 under the forward starboard settee seating between the battery switches. The up foot pedal controller for the windlass is located inside the anchor locker. To let the anchor out, ease the clutch on the windlass.

Deploying the Anchor.

With an electric windlass, it is important to deploy the anchor into the water by hand. Pay out enough slack in the chain so that you can hand-deploy the anchor into the water about one foot below the water surface. (By having the anchor slightly in the water, the water will buffer that troublesome “pendulum” action that causes a partially-deployed anchor to swing and ding the bow before you get it all the way into the water with a windlass clutch that you’re not familiar with.) Once the anchor is in the water, use the windlass clutch 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.

*Also, when retrieving the anchor, only retrieve it up to where you can see the anchor about one foot below the water (again to buffer any possible “pendulum” action if the anchor were just out of the water). Then, by hand, retrieve the anchor from just below the water onto the bow roller. This prevents possible pendulum action, plus, 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. **DO NOT** use the windlass power to take up the last few inches of slack. Just take the extra chain and snug it up and hand-set the chain back onto the gypsy.*

Take your time, the anchor chain dropping off of the gypsy sometimes bunches up under the windlass and you might need to push it down several times (with your foot or 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 secure the anchor with the “snubber” line. Snap the line through a link in the chain nearest the anchor, then lead the line straight back and around the drum angling the line to the port bow cleat. Secure tightly with a standard cleat knot. (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 with a line, immediately switch the windlass breaker “off” to prevent draining the engine start battery should the windlass system decide to short out.

3. Barbecue.

*The propane BBQ is plumbed to the propane tank on the rail. 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.

There are two battery switches on “Morning Light”. They are located under the table on the starboard side of the salon.

Leave the outboard switch which is the engine battery switch in the “on” position. The inboard switch is labeled, #1, #2, ALL, & OFF. The #1 position is the start battery, The #2 position is the house bank, The ALL position combines the start and house battery banks. The OFF position turns off both banks. The ALL position is for emergency starting only. After the engine starts, switch to #1 and when the start battery is fully charged, switch to #2 top off the house bank and leave on #2.

DO NOT LEAVE THE SWITCH ON “ALL” OR YOU WILL DRAIN ALL THE BATTERIES.

DO NOT SWITCH TO OR THROUGH THE “OFF” POSITION IF THE ENGINE IS RUNNING.

The House bank has two 4 D deep-cycle batteries for house services. The Start battery is a single high-amperage-output battery specifically designed for starting diesel engines. The house batteries are located under the aft starboard settee seat. The start battery is located under the forward settee seat.

Battery voltage can be checked on the electrical panel. The starting battery is labeled “1” and the house battery is “2”. You should try not to discharge below 11.5 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.

“MORNING LIGHT” is ideal for 4 people, but she’ll sleep a maximum of 7 - two in the forward cabin, two in the aft cabin, two people on the dinette table (converts to a double berth), and one on the settee opposite the dinette (with a conversion piece and cushion stored in the v berth). The forward bed is 6’2” long, 7’4” wide (at the head) and 1’10” wide (at the foot). The aft bed is 7’ long, @ the forward side and 6’ long @ the aft side and 5’6” wide throughout. The converted dinette is 6’3” long and 4’ 1” wide (with side cushions removed). The port settee is 6’3” long and 2’ wide (with side cushions removed).

Converting the Dinette into a Double Bed. Pull up on each side of the table, and set it on the rails below the cushions. The filler cushion is in the v berth. Very comfortable!

6. Bilge pumps.

Please check the bilge each day, morning and evening. It is accessed by lifting the floorboard under the dinette table. Please note that the refrigerator has a foot pump to empty it.

There are two bilge pumps:

- (1) One **electric on-demand** bilge pump is controlled at the electrical panel. Push the breaker on to turn it on; push it again to turn it off. It has an automatic float switch in the "auto" position. The manual/auto rocker switch will activate the pump.

- (2) The **manual emergency** bilge pump is the second bilge pump. The emergency bilge pump handle and insert outlet is located in the cockpit (with the pickup tube in the lowest point in the bilge). Monitor bilge water daily and alternate your choice of pumps to ensure that all are functioning properly. The handle is stored in the nav table.

7. Dinghy.

"*MORNING LIGHT*" has an inflatable "Sea Eagle" brand 10'6" dinghy, two seats, oars and an outboard engine. (See "Outboard" section.)

Towing works best when the dinghy is brought close to the boat – only have about 4 or 5 feet of painter line from the stern cleat to the bow of the dinghy. This lifts the bow slightly out of the water and reduces drag so you go faster, and lessens the chance of wrapping the painter around the propeller. Tie the painter off twice – once at a cleat with a standard cleat knot, then the bitter end to the stern rail. We've recovered dinghies "lost at sea" by others who relied on a single cleat hitch.

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).

8. Dodger & Bimini.

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

The center plexiglass panel 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).*

The bimini is set up by and retracted By folding it back and storing it against the backstays. Please protect it from chafe as it will wear holes in it if rubbing against the backstays. It has a “boot” located in port lazarette to cover it when not in use.

9. Electrical Panel.

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

A/C (120V) Power. The A/C outlets will only function while connected to shore power. A/C outlets will only work when the A/C Outlets breaker is in the on position.

Battery Charger. The Battery Charger breaker switch must be turned “on” for shore power to charge the batteries. There is a 90-second delay from the time you flip the breaker “on” to when the red light on the electrical panel comes on (indicating that you’re charging and A/C power is available). Wait for the red light before using A/C power. And, the A/C Outlets breaker switch must be “on” for the plugs to be live.

Chart Plotter. The circuit breaker for “NAV/ INSTRUMENTS ” is located on the electrical panel. This switch powers the Garmin 3210 chart plotter at the helm.

Autopilot. The autopilot and most of the other instruments, and the chart plotter, are powered by an on/off breaker labeled “NAV/ INSTRUMENTS” on the main electrical panel.

Cabin Lights. Once you have turned on the circuit at the electrical panel labeled “cabin lights”, an on/off switch for all salon/galley lighting is controlled by rocker switches on each fixture. All other cabin, head, and navigation station lighting locations have individual on/off switches on the fixtures.

Water 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 aft port dinette cushion.

Shore Power A/C Circuit Breaker. This box is located in the aft starboard cockpit locker. It rarely trips, but if it does, just turn it back on.

Running & Steaming Lights. Please be advised that night passagemaking 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.)

10. Electronics.

The depth sounder, wind instrument, and autopilot are all RayMarine products. The chartplotter is a Garmin product.

Cellular Telephones. "MORNING LIGHT" is equipped with a 12-volt cigarette lighter type outlet that may be used for recharging your cellular telephone. The outlet is on the electrical panel face.

Depthsounder. Power on by flipping "on" the breaker labeled "NAV/ INSTRUMENTS" on the main electrical panel.

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. “MORNING LIGHT” is equipped with a Garmin Radar and a color 3210 chart plotter at the helm. (The chart plotter may be used without the radar to minimize battery drain.) GPS input to the Chart plotter comes from a WAAS receiver antenna mounted on the stern rail. To start the Radar/Chart plotter, turn on the electrical panel switch labeled “NAV/INSTRUMENTS”. Then, press the power button at the lower left corner of the unit until it beeps and turns on the display. To shut down the unit, press and hold the power key (red button, lower left) for 3 seconds.

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 “NAV/ INSTRUMENTS” on the main electrical panel. 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 impeller 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 lowest drawer under the v berth @ the centerline of the boat.(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 on the pedestal, 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/RADIO breaker on the electrical panel is “on”) on by holding down the volume 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.

11. Emergency / Safety Equipment.

First Aid Kit: A complete first aid kit is located in the head medicine cabinet above the sink. 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 cabinet forward of the settee on the starboard side of the salon.

Fire Extinguishers. There are two fire extinguishers., one in the salon above the electrical panel, and one in the starboard v-berth hanging locker.

Emergency Tiller. It sort of looks like a metal pipe, with an “elbow” bend in it. It’s located in the port cockpit locker. The rudder post attachment point is under the helmsman seat. .

12. Engine & Handling.

Reverse. “*MORNING LIGHT*” “walks to port” very slightly. It’s easily overcome with the wheel and rudder when you have a little sternway. (Be sure to hang on tightly to the wheel in reverse. If

not, water pressure on the aft edge of the rudder will slam the rudder over to one side or the other. And that's very hard on the steering mechanism.)

Forward. “*MORNING LIGHT*” has a large and deep rudder. So she's very quick on her feet and turns in a narrow radius. Very small rudder adjustments will easily change course.

Docking. “*MORNING LIGHT*” carries momentum well, so your final approach and turn in toward your slip can usually be done with the shifter in neutral...you'll certainly need no more than “idle speed forward” (unless there are high winds).

Never turn off the engine until the vessel is securely tied at the dock. Remember, you'll need to use your engine – in reverse – to 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.

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 level. The dipstick is accessed by removing steps by lifting up and then releasing the latches on the engine cover and pulling it forward. The dipstick is on the middle 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
2. Check the coolant level by opening the “radiator cap” on heat exchanger.
3. While you have access to the front of the engine, check for belt tightness and leaking fluids.
4. Look over the stern for kelp, logs or branches that could foul the propeller.
5. Make sure the gearshift is in neutral...and advance the throttle about ¼ forward from the idle position.
6. Insert the key and turn it clockwise, to the first click. Push the black button on the port side of the panel. Make sure the “T” handle engine stop is all the way down.

7. Expect the engine to start in 5 seconds or less. If the engine doesn't start after 10 seconds of cranking, turn key counter clockwise to the off position. Wait 15 seconds and try again.
8. After the engine starts, check for water gurgling out the exhaust, then gradually ease the throttle back to idle near **800 RPMs**.
9. While the engine warms, check your fuel level. "MORNING LIGHT" has an on-demand fuel gauge on panel near the ignition key.
10. 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.
11. Note oil pressure gauge (should read 40-60 psi) & temperature gauge (should read 180-190 degrees)

Proceeding in Forward / Reverse.

Bring the throttle back all the way. Now you may engage forward gear by pushing ahead on the lever on the port side or reverse gear by pulling back on the lever. To keep the transmission "healthy", please remember to pause 2 seconds (say "one and two and") when shifting from forward to reverse and visa versa.

Operation.

35 HP Universal engines are very reliable. Cruising speed is **6.5 knots at 2800 RPM**. Fuel consumption is approximately 1 gallon/hour at 2800 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. (5-6 knots at 2000-2500 RPM – economy cruise speed at less than ¾ gallons per hour.)

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 ½ full and before it reaches ¼ 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 behind the engine in the aft berth under the mattress compartment in "MORNING LIGHT". Close the seacock. And then simply twist off the nut above the screwtop and remove the lid. Then extract the eelgrass and toss it in the galley garbage can. Replace the lid and tighten by turning the nut clockwise until the lid is seated firmly on the rubber gasket. Open the seacock, 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.

Pull the "T" handle and turn off the key when the engine stops.

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 After the engine stops, turn the key to the "off" position (turn it counter-clockwise) and remove key.

13. Fuel Tank.

"MORNING LIGHT" has a 25-gallon fuel tank. The engine consumes approx. 1 gallon of diesel per hour.

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 1/2 full, you should refuel at your next opportunity. NEVER let the fuel level fall below 1/4 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.)

14. Head & Holding Tanks. *"MORNING LIGHT" has a 17-gallon holding tank, and it will need to be emptied once every day to avoid a leaking sewage or, worse yet, an exploded holding tank...a real "vacation ruining" event! Make sure the through hull is open before macerating. Please close the through hull when done macerating as the tank will fill with seawater if left open. Macerator switch is on main electrical panel. Run macerator until a change in tone in pump then turn off switch. (San Juan Sailing staff will discuss holding tanks, overboard discharge and pumpouts.)*

When the holding tank is near full, a warning light will turn on at the Nav station. The "Tank Watch" light is located above the electric panel.

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. The head on "MORNING LIGHT" has a Y valve. It is located under the forward dinette cushion. Follow the plumbing to determine which way the effluent is travelling. Make sure the "Y" valve is in the "holding tank" position if in American waters or bays and marinas in Canada.

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!

15. Headroom.

The headroom on “*MORNING LIGHT*” (taken centerline in the main salon) is 6’3”.

16. Heater .

The diesel-fired Webasto TSL 17 hydronic cabin heater will make the interior “toasty” within 10-15 minutes. The heater control is located near the Navigation Station. The “System Heat” switch must be turned on and the “heat” switch on the Thermostat must be turned to “heat”. Then turn up the thermostat to the desired temperature. . The heat is dry, comfortable, and on those rainy days or cool evenings, makes a huge difference in cruising comfort! There are fan switches in each berth, salon and galley areas.

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.

17. Keel Depth.

“*MORNING LIGHT*” has a deep fin keel and draws 6’3”...so figure on 8 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.

18. Outboard.

“*MORNING LIGHT*” is equipped with a 4-stroke Honda 2 horsepower outboard. This brand and size has proven to be a practical and VERY reliable dinghy outboard.

DO NOT add any oil to the gasoline mixture – it uses just straight gasoline. The fill cap is located at the top of the engine.

As a courtesy we have an additional red spare gasoline container tied into your dinghy.

WARNING – Gasoline fumes are explosive and a very dangerous fire hazard if stored on a boat. Keep the spare gasoline container in the dinghy and tied to the transom so it stays upright. NEVER store the spare gasoline container in a locker, lazarette, or any other storage area on your vessel.

The outboard is light so it's easy to transfer from the stern rail outboard mount to the dinghy transom (and vice versa). PLEASE do not cruise with the outboard on the dinghy. It will no longer work after saltwater gets into or even near the intake of the carburetor. If this happens, you will have to condition your rowing muscles until you get back to Bellingham). We also recommend taking the outboard off the dinghy at night. We have actually had dinghies deflate in the cool of the night and had wind waves or powerboat wakes flip the dinghy over. It's a disturbing sight first thing in the morning to see your outboard propeller sticking straight up, with the motor under the water. At that point it's nothing more than a very ineffective \$900 anchor. And we do not want to have to sell you a non-working outboard after it has been submerged!

To Start.

1. Push the fuel valve lever (starboard aft corner of the outboard) aft to open the fuel valve.
2. Pull out the choke switch (starboard forward corner of the outboard).
3. Open the air vent on the top of the fuel cap (top of outboard) by turning counter-clockwise about 3 full turns.
4. Make sure the black U-shaped kill clip (with the red lanyard) is clipped into the red shut-off knob (port forward corner of the outboard).
5. Turn the handle throttle ¼ turn counter-clockwise.
6. Pull the rip cord until it starts. (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. There is no transmission--just throttle up to go forward and throttle down to stop. If you want to go in reverse--just swivel the outboard around 180 degrees.

To Shut Off.

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

When Not in Use.

1. Put the outboard back on the outboard mount on the stern rail and tighten both braces.
2. Push the fuel valve lever forward to close (starboard aft corner of the outboard).
3. Close the air vent on top of the fuel cap (top of outboard) by turning it clockwise.
4. Secure the outboard further by tying the safety lanyard with to the stern rail.

Troubleshooting.

If the engine won't start, review steps 1-6 above to make sure you've done all 6 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.

19. Draining the Refrigerator

To drain the water from the refrigerator for cleaning or in case of water build-up, a foot pedal is located @ the floor level to empty the compartment.

20. Sails.

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

Reefing the Headsail – Simply ease the jib sheets (keeping control of them) while pulling in the jib reefing 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.

Mainsail. The mainsail is a 80% battened, conventional rig with a Dutchmen system with a pre-rigged reefing line. When attaching the halyard to the mainsail (we keep the main halyard shackled to the deck fitting abeam of the mast on the port side near the toe rail to keep the noise down), be sure not to foul the halyard on the lazy bag lines.

To deploy the main:

1. Steer head-to-wind and maintain.
2. Tighten the Dutchman system.
3. Attach the halyard to the head of the sail.
4. Release mainsail reefing line, mainsheet, and vang when preparing to hoist the main.
5. Pull down on the halyard at the mast, while someone in the cockpit takes up the slack. (If shorthanded, you can pull the halyard from the cockpit – but it takes a fair amount of elbow grease.)
5. Then, winch the halyard up the last few inches to eliminate wrinkles in the luff. (Don't over-crank on the winch or the sail could possibly rip somewhere along the luff.)
6. Fall off 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 you from rounding up. Reefing the main is easy and can be done from the cockpit. Here's how.

1. De-power the main (by heading up or heaving to).
2. Be sure the topping lift has not been loosened, and will hold up the boom.
3. Let the tension off of both the boom vang and the main sheet.
4. Lower the mainsail so that the reefing point you desire is about 24 inches above the boom and cleat off the main halyard to keep tension on the mainsail halyard when reefing down the foot of the main.
5. Pull in on the reefing line (using the winch if necessary) to tighten the sail, which will draw down the reef point much closer to the boom and “shape” the sail.
6. If needed, raise the main halyard slightly (with the winch).

“MORNING LIGHT” is a delight to sail. Her sail plan (a medium-sized furling genoa and battened main) was selected with consideration for single or short-handed sailing. Once she has way, MORNING LIGHT is easily steered with small rudder changes. Her perfect breeze is 10-20 knots with heel at 5-20 degrees. Full sail can be carried in winds up to 17 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 decide you've been too conservative.

21. 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.

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

After pushing the “sump pump” breaker to “on” at the electrical panel, the pump is controlled by a toggle switch located to the right of the washbasin.

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.

22. Spares.

“MORNING LIGHT” is equipped with engine and general spares. They are located in a canvas bag in the port cockpit lazarette.

A TOOL KIT IS LOCATED IN THE PORT SIDE LAZARETTE.

23. Stove/Oven

The gimbaled 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 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 in 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 push the safety button and light the pilot light with a lighter.

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, gimbal the stove by pushing the rod under the oven door to the right, so it is not inserted in the hole in the cabinet (forward). Then if the boat heels, hot liquids and foods will not readily slide off of the stove. Also, for added security, use the fiddles that hold the pots/pans on the burners. If you have something in the oven, please lock the oven door so the contents cannot slide out onto the galley sole (or someone's feet). A latching mechanism is located in the upper left of the oven door. **WARNING:** Never cook in high wave conditions or in strong, gusty winds. Food will definitely go flying!*

When cooking at a dock or in a quiet anchorage, lock the stove in position by pushing the rod under the stove to the left and into the hole in the cabinet (forward). That way, if someone leans on the stove or grabs the oven handle, it won't tip and spill pot/pans on the cooktop.

24. 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. "MORNING LIGHT" has three water tanks. Starboard, Centerline and Forward. The Manifold is under the dinette cushion aft. They hold a total of 82 gallons of water.

When the tanks are full, use the bow tank first. With water tanks heavy with water, sailboats tend to be a little bow heavy (especially if ground tackle is all-chain). Depleting some of the water weight forward first brings the boat into balance. 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 "MORNING LIGHT" !

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