

San Juan Sailing Preventive Maintenance Schedule

Boat Owners and their MPs are responsible to keep this ONLINE PMS up to date so that owners, MPs, SJS staff and charter guests can see what has been done, and by whom, to assure a cosmetically and mechanically confident vessel. Obviously, failure to keep this PMS current will reflect adversely on the boat and the person who accepted responsibility for timely accomplishment. Inaccuracies are subject to penalty; falsification is grounds for de-certification.

Season:	2022		
Vessel:			
Maintenance Pro:			
Charter ready date:	4/15/2022	(To be selected by boat owner. Default date is 4/15/22.)	

RESPONSIBILITIES: *The Maintenance Pro (MP) will contact the Boat Owner (O) so the O can decide who does what. Place an "x" in the "M" or the "O" column by each task on this digital PMS (shared in Dropbox). As each task is completed, the person completing the task will initial & date this online copy of the PMS.*

CHARTER-READY CERTIFICATION: *Vessels are eligible for charter only when 100% of the "essential" Pre-Season Preparation steps are completed, initialed & dated. Items with a "***" are required but may be pushed beyond the owner-selected "charter ready date; however, they must be accomplished by June 1. SORRY, but if the boat is not certified "charter ready", charters will be*

Complete Before:					
3/4/2022	·	Haulout	– completion at least six weeks before charter ready date.		
3/18/2022	·	Spring Pre-Season Preparation	– completion at least four weeks before charter ready date.		
3/25/2022	·	Interior Deep Clean	– completion at least three weeks before charter ready date.		
4/1/2022	·	Shakedown Cruise	– completion at least two weeks before charter ready date.		
4/8/2022	·	Exterior Deep Clean	– completion at least one week before charter ready date.		

WINTER

"M" & "O" assignments due by December 1. Unassigned items will be designated "M".

Choose one:			Date	Item	
O	M	SJS	Date	Initial	Item
	M				1 Disassemble, lubricate and inspect anchor windlass. Clean and spray points and switches. Check brushes, springs, electrical connections and ground wire attachment bolt for tightness. Treat hardware with anti-corrosion (Tef-Gel). Rebuild motor in 2020, 2025, and every 5 years thereafter (or install new windlass, which in some cases can be less expensive).
					2 Access back of electrical control panel. Test all electrical connections for corrosion and tightness. Check all electrical connections for tightness/corrosion in bilge and in engine compartment and any other areas that may be close to water. Check for burned out indicator lights on panel (laser thermometer handy for this).
					3 Recommend installation of large display voltmeter for house battery bank, with label below that says "IT'S TIME TO CHARGE IF BATTERY BELOW 12.2".
					4 Replace raw water impeller in engine using on-board spare. Replace spare with new. (Goal = to start spring with new impeller.) Label in engine compartment when changed and when due again.
					5 Check integrity of heat exchanger, exhaust elbow and after cooler. Change zincs where applicable. Refer to manufacturer recommendations.
					6 Inspect cleanliness of air filter, assure changed at least in even years unless it is the type that can be cleaned (most are foam that deteriorates over time).
					7 Replace primary fuel filter (2 micron) on engine, bleed fuel system and assure no air locks, test for proper operation and no leaks. Replace in-line or secondary fuel filters every year or every other year depending on manufacturer specs. Clean and service raycor parts.
					8 Check belts for tension (1/2 inch deflection) and wear (look for black powder and cracks in belts). If in doubt, replace.
					9 Wipe engine and mechanical components in engine compartment with oily cloth to remove dirt and grease (use degreaser if necessary). Remove any rust, spot paint engine and other components if necessary for "like new" appearance. Coat engine with WD-40, Corrosion X or BOESHIELD anti-corrosion spray.
					10 Check all bolts, screws, hose clamps, engine fittings for tightness throughout boat. (NOTE: Water system can be done in the spring.)

					11	Remove and check exterior ignition control panel for water intrusion, loose wires and corrosion, spray with WD-40, Corrosion X or BOESHIELD anti corrosion spray to prevent corrosion/rust.
					12	Check throttle and shift controls and cables for adjustment, condition and lubrication. Check all linkages, associated hardware and brass barrel ends. RECOMMEND: Pre-run spare cable(s) to engine and transmission.
					13	With flashlight and mirror, check all motor mounts for signs of "general wear" (crack in a bolt, weakening of rubber sometimes coming off mount, u-shaped bracket settling down onto base). If no obvious signs of wear, look for sagging/sinking of the engine toward any of the mounts. Replace if signs of wear or if engine is tilting forward, aft or to one side. (If realigning engine, tilt becomes more apparent.) Expect to replace motor mounts after 5-10 years.
					14	Tighten all engine and transmission fittings and motor mount bolts. Check coupler.
	M				15	Annually remove drum and inspect all winches. If necessary, clean parts in kerosene, parts cleaner (T9) or paint thinner; lubricate bearings with winch grease and light lubricant on pawls, reassemble. Follow manufacturer instructions.
					16	If vented well only has room for one LPG tank, install rail mounted tank for BBQ.
					17	Assure green (on for normal operations), double green (never turn off), yellow ("on" as needed) and red (never use) "dot" labels by all circuit breaker switches.
					18	Check hoses throughout boat for wear (i.e chafe, cracking, swelling and general deterioration). Replace if in doubt. Add chafe guards as necessary.
					19	Inspect bulkheads, tables, galley fiddles, doors, companionway stairs and cabin sole. (Expect to re-varnish wood soles every 2-3 years.) Renew to "like new" varnished and/or oiled finish. For laminate floors have chips repaired (coordinate with SJS).
					20	Replace any non-skid on stairs if worn.
					21	Review "Owners Notes" and edit for accuracy and completeness or contract with SJS professional writer to do so. (NOTE: Inaccurate procedures or poor descriptions result in excess calls to and charges by your Maintenance Professional, or damage to the boat). Review Skipper, NSO and checkout checklist for boat (contact SJS for copies). We recommend involving your maintenance pro in this review so they can give feedback on items where they may receive frequent calls or questions.
					22	Note location of tools, general spares and engine spares in Notes from the Owner and in Vessel Inventory.

						23	Inspect (and operate) stove top and oven burners for scale and rust. Assure proper operation. Change battery on ignitor, if applicable.
						24	Inventory tools in onboard toolbox against SJS's required Tool List (list on next tab). Purchase and/or replace tools as necessary. Wipe down all metal tools and parts with WD-40.
	M					25	Inventory spare engine parts against SJS "Engine Spares" (list on next tab). Place items in plastic (e.g., Sterilite) box labeled "Engine Spares". Confirm that <u>all</u> required engine spares are aboard.
	M					26	Inventory general spare parts against SJS "General Spares" (list on next tab). Place items in plastic (e.g. Sterilite) box labeled "General Spares". Confirm that <u>all</u> required general spares are aboard.
						27	Check to make sure gas cylinders for refrigerator lid are still operational. If top closing refrigerator or freezer still has a spring support replace with gas strut.
	M					28	Service the diesel cabin heater (follow service manual) or subcontract to authorized service technician or company. WEBASTO: <ul style="list-style-type: none"> · Forced Air System: inspect/replace filter, check lint/dust around cowling, clean combustion chamber, check ducting, check exhaust and exhaust blanket. Test run for 1-2 hours. · Hydronic System: inspect/replace filter, clean combustion chamber, check pH balance, check fans, check exhaust, quick air bleed, blow coils out. Test run for 2-4 hour. Change fuel nozzle, change water conditioner filter, wipe photo eye clean, clean electrodes.
						29	Check dates on head hoses. (If not dated and if installation date is known please label with "installed" year and "change in" year.) For saltwater heads, replace non-PVC head system waste hoses after 5 years. Use PVC pipe wherever possible, and top-quality thick-wall hose where necessary. On fresh water heads, or if "premium" hose (e.g. Trident) is used, hose replacement may be extended to every 10 years IF odor-free. Any lengths of PVC pipe can follow the every-10-year replacement interval. Use two stainless hose clamps on all hose connections. When hoses are changed make sure to write on hose (inside compartment, but visible when compartment is opened) with indelible marker both "hose installed (year)" AND "change in (year)".
	M					30	Lubricate steering chain and shaft(s) with PTFE grease. Grease pedestal shaft(s) bearings with suitable lubricant. Inspect and lubricate steering quadrant sheaves (if applicable) with PTFE grease. Belows decks, check cables for tension and wear. Replace cables if

	M				31	Verify chartplotter operation, in particular that the default settings have all vectors turned off except the COG vector.
	M				32	Verify AIS is transmitting and receiving and AIS targets are showing up on the chart plotter by default.
	M				33	Verify VHF radio DSC is programmed correctly and the radio is properly receiving GPS information.

SPARE PARTS INVENTORY

Date Completed: _____

ENGINE SPARES

INITIAL Assembled in **BOX** with clear plastic cover labeled: **“Engine Spares”**

- Spare fuel filters for engine, (generator if applicable)
- Spare filters for watermaker (if applicable)
- Spare belts for engine, (generator if applicable)
- Spare impellers for engine, (generator if applicable)
- Spare impeller plate gaskets
- Minimum of a half dozen 12” zip ties

INITIAL In a **compartment (with location noted in Inventory):**

- 1 quart each spare oil for engine, (generator if applicable)
- 1 gallon of appropriate engine coolant (NOTE: Not automotive engine coolant.)
- Battery water (distilled) – write “for batteries” on container

GENERAL SPARES

INITIAL Assembled in **BOX** with clear plastic cover labeled: **“General Spares”**

- Minimum of 2 spare light bulbs for each type of navigation and cabin lights
 - For fire safety and to reduce power consumption, assure that halogen bulbs are replaced with LED: Imtra – IMT ILBPG4-10c (“bright white” light for heads) and Imtra – IMT ILBPG4-10w (“warm white” light for all other areas)
- Minimum of a dozen 12-inch zip ties
- 2 hose clamps for each size fitting
- 6 cotter rings, various sizes
- Spares for any onboard fuses
- Spare spark plugs for outboard
- Various screws, nuts, bolts
- 2 spare lifeline pins – clevis pins
- Spare stanchion tensioning screws (if applicable)
- Spare oarlocks for dinghy
- Spare regulator for BBQ
- Whipping twine for end of sheets
- Stainless seizing wire
- Sail repair needles and thread, sail repair tape

EQUIPMENT SPARES

INITIAL

- If manual toilet, replacement head pump plus a dozen pairs of surgical gloves.
- If VacuFlush head, 4 duckbill valves per toilet plus one bowl seal and one ball valve assembly.
- Spare starter
- Spare alternator (unless deemed too complex by MP). Spare high output Balmar w/ smart regulator is expensive.
- Sail specific spares, to be recommended by maintenance pro.

INITIAL If applicable, assembled in **BOX** with clear plastic cover labeled: **“Hydronic Heater Spares”**

- Coolant conditioner filter
- Fuel Nozzle
- Photo eye

"LONG TERM" SPARES

INITIAL These can be stored in an out-of-the-way place as long as it is known to the Maintenance Pro:

Alternator
Starter
Transmission fluid
Raw water pump
Domestic water pump
Electric bilge pump
Bilge float switch
Fuses for alternator
Head pump assembly for manual heads
4 extra main fuel filters
2 secondary fuel filters
Nav light bulbs

TOOLS

Need both 1 and 2 below...or one tool box containing all of the items below:

1. Tool box/bag containing:

10 inch crescent wrench
Channel locks
One each: #1 and #2 slot (straight) and Philips head screw drivers (4 total screw drivers)
Small hack saw (tungsten or carbon blade preferred)
Vice grips (large)
Can of McLube SailKote – non dirt/grit attracting spray lubrication (SJS bulk buy)
Assortment of small nylon, stainless steel and bronze bushes
Small metal file
Roll duct tape
Digital voltmeter (SJS bulk buy)

2. West Marine 133-piece tool set (SJS bulk buy). Contains:

Open-end box wrenches:
• SAE 3/8"-5/8"
• Metric 10,12,13,14,15mm
Socket wrenches:
• SAE 5/32"-1/2"x 1/4" drive
• Metric 4-12mm 1/4"x drive
• 3/8"-11/16"x 3/8" drive
• 9-17mm 3/8"x drive
• 5/8" & 13/16"x 3/8" drive
Spark plug sockets, 1/4" adaptor
3/8" drive ratchet
6" adjustable crescent wrench
5" needle nose pliers (with wire cutter)
5" side cutter
Small needle nose pliers with built-in wire cutter
Electrical crimping tool
Small 12-volt tester with negative alligator clip lead (optional if digital voltmeter above is aboard)
Small wire brush
Small file

	#0 x 3" Philips screw driver
	Bit driver handles 1/8"-1/2", assorted terminal ends
	Allen wrenches:
	• SAE 1/16"-1/4"
	• Metric 1.5-6mm
	Assorted driver bits including Philips, slot, hex and star (optional with the 4 screw drivers above)

ANNUAL HAUL-OUT

Please complete this Checklist at least 6 weeks prior to first use.

To meet your charter ready date of 04/15/22 the annual haul-out must be completed by 03/04/22.

Assigned to:		Date		Item
O	M	completed	Initial	
Before Haul Out				
				1 Grease rudder shaft(s) (if zerk fitting available), check adjustment of rudder packing gland (if applicable).
				2 Check P.Y.I. dripless shaft seal (if this type is on vessel). Examine for signs of rubber deterioration/cracking. Assure that double-stacked neoprene set screws (two pairs) are tight...and assure second set screws are actually being used. Consider using LOCTITE if compatible with neoprene set screws. Assure hose clamp forward of collar. Check bellows compression.
or				
				If the vessel has the "Volvo" type black rubber shaft seal, grease the inside lip of rubber seal with waterproof grease.
Haul Out				
				3 Schedule boat for haulout with yard and deliver to yard.
				4 Pressure wash bottom (normally done by yard).
				5 If not already done so, permanently label hull (below toe rail) during haulout, to indicate position of shaft or sail drive. Recommend marking style of: "NO SLING -----> <-----NO SLING" rather than "SLING HERE". Also recommend taking photo of boat out of water for reference and storing photo in onboard Charter Guest Reference Manual.
				6 Check hull and keel for damage. Check running gear for damage: shaft(s), strut(s), prop(s), rudder(s). Report any damage to SJS. Arrange for any necessary repairs <u>after consulting with SJS</u> . (SJS expense if could be detected by diver, unless caused by owner.)
				7 Evaluate condition of bottom paint. Complete #7 and #8 or comment below. Note: Ablative paints recommended; after years or multiple coats of ablative, occasionally repainting may not be necessary. Some owners opt for the initial base coat in a different color than subsequent coats to allow easy identification of when additional coats are needed.
• Maintenance Professional's Paint Condition Evaluation/Comments:				
				8 To the extent permitted, sand or rough up existing paint surface (where needed) to prepare for fresh coat of bottom paint. For bare fiberglass areas, wipe surface with acetone and barrier coat prior to painting.
				9 Obtain and mix paint, tape waterline with special painter's tape, then paint bottom. Add a second coat from the water line down 2 feet and on all leading edges.

				10	Sand propeller shaft(s) and propeller(s) with #400 sandpaper. Service folding prop (if applicable). (Optional: spray with PTFE grease to help inhibit marine growth.) Check cotter pin on prop nut.
				11	Replace all zincs.
				12	If bonded, perform bonding test to check resistance between all underwater metals. Investigate anything over 1 ohm.
				13	Rub out hull gelcoat scratches with rubbing compound and power buffer. Inspect for chips and scratches through the gelcoat. (<u>Report any chips/scratches through gelcoat to SJS and arrange for any necessary gelcoat repairs after consulting with SJS.</u> These will be an SJS expense, unless caused by gelcoat voids or by owner.)
				14	For non-painted hulls: Wash; if haze, buff lightly with buffing compound and wax hull. If no haze, polish only. For painted hulls: (optional) wash and apply paint brand's recommended restorative/protectant (NOTE: You may wait until there's a good "weather window" in March, April or May to buff/wax the smooth surfaces on deck and above-deck superstructure but please buff/wax the hull during haul out.)
				15	Operate all seacock valves. If stiff and do not open/close easily, disassemble, clean, emery cloth any scratches, grease and reassemble or replace. On the interior, yank on seacock to check integrity (not to exceed 50 lbs force). On exterior, tap seacocks with screwdriver and hammer—if pink pigment present, replace seacock. If bonded, check bonding. If not bonded, conduct ohm resistance test.
				16	If sail drive, drain, flush and change oil while in haul out (according to manufacturer recommendation). Replace O-ring.
				17	Check condition of cutlass bearing for excessive or uneven wear, replace if necessary.
				18	Evaluate rudder play. If excessive, find cause and correct.
				19	If needed, repack rudder packing gland.
				20	Service thruster(s)...if applicable. (Follow service manual.) Assure circuit breaker off or battery disconnected before servicing.
				21	Every 5 years, have the fuel tanks professionally checked (recommend Petro-Clean) and, if sediment is found, polish the fuel in tank(s) to remove sediments and bacterial growth. Note: Below wood inspection plate, on tank, label or write with indelible marker "fuel polished 00/00". (If no "fuel polished" date on tank, and if the boat is more than 5 years old, arrange for inspection by Petro-Clean.) Note: rebuild anchor windlass in same year.
				22	Refloat boat, deliver boat to slip and secure.
				After Haul Out	
				23	After back in slip for 48 hours, check alignment of shaft with a feeler gauge, re align engine if necessary. During realignment, check tightness of the nut that secures the coupling to the transmission.
				24	If thruster, turn off circuit breaker or disconnect battery.

SPRING PRE-SEASON PREPARATION

"M" & "O" assignments due by December 1. Unassigned items will be designated "M".

Please complete this list **at least 4 weeks before charter ready date.**

To meet your charter ready date of 04/15/22 this checklist must be completed by 03/18/22.

Choose one:			Date	Initial	Item
O	M	SJS	completed		
					1 Make sure start and house bank batteries are topped off with water (if applicable).
					2 For AGM batteries perform deep cycle charge (draw down below 12v and charge hard) to reduce sulfation. Refer to battery manufacturer specifications.
					3 Check that the charge profile on battery charger, alternator, and solar (if applicable) match battery specifications.
					4 Reconnect bow thruster battery (or turn breaker back on).
					5 Add one or two coats of teak oil/polyurethane/varnish to exterior bright work (do not apply to teak decking). Renew areas as necessary. If leaving gray, sand thoroughly clean.
					6 Soak any teak decks for 20 minutes with mixture of 1/4 cup TSP, one cup bleach per gallon of water, or Zcare and Cascade dishwashing soap, scrubbing across the grain. Rinse thoroughly. Do not oil teak decks.
					7 Before the first charter, remove all winter canvas (such as binnacle cover, winch covers, rail covers) and store in a dry location, <u>not onboard</u> .
					8 Install dodger/bimini if removed and inspect canvas for mildew or dirt and if present, clean canvas (e.g., dodger, bimini, sail cover) with "Oxy Clean" or other recommended mildew remover, replace tension bungees and snaps as necessary. Apply Vaseline to all snaps. (Machine wash boom cover on gentle cycle with Woolite or Oxy Clean, line dry.) Assure all zippers operate smoothly and are lubricated. Recommend 303 or silicon sealant on dodger/bimini.
					9 Assure proper air pressure in dinghy. Confirm that there are no air leaks. Check air pump for operation - leaks, gaskets, proper fittings. Check painter (bridle if applicable) for wear. Replace if necessary with a multi-filament soft polypropylene line (available from SJS, Owners Consumables Inventory)...minimum length 30', recommend 50'. Check bottom for wear. Recondition as needed. Apply UV protectant. NOTE: RIB dinghies that have both D-rings and a towing eye should be rigged with a 3-point bridle.
					10 Take 2HP Honda outboards (SJS) to West Coast Marine for annual service (at group rate). Other outboards serviced by MP or West Coast.

						11	Leak test propane system. Check propane locker drain. Check date of propane tank and replace or recertify.
						12	If applicable, check davit/davit lines for wear/operation.
						13	Turn on all interior lights. Replace bulbs if in-op. Replace halogen bulbs with LED as they burn out.
						14	Replace batteries in CO detector(s) as needed. Check whether sensor is expired.
						15	If the vessel has an electronic flare, replace batteries, check operation, assure distress flag present with flare.
						16	Assure all navigational equipment is operational and updated (including chart data).
						17	Before first use, open all seacocks. Assure that there are wooden plugs (appropriate size) attached with nylon string to each seacock and that all seacocks are labeled either on the hose or the hull next to the seacock.
						18	Check stereo and salon/cockpit speakers.
						19	Service/recertify all fire extinguishers onboard. Replace expired non-tagged extinguishers.
O						20	OWNER: If applicable, assure satellite radio subscription is current.
	M					21	Aloft inspection: Remove spreader boots, inspect for corrosion and spreader shroud retention. Inspect masthead (VHF antenna, coaxial connections, masthead roller and masthead fly alignment). Check jib furler ease of operation and luff stretch (how high top roller sits on forestay). Clean contacts on running lights from corrosion, spray. Assure anchor light is LED. Wash upper roller furling bearings with fresh water. Descend along forestay and inspect extrusion pins on forestay for failure or "backing out". Redo wire ties on cylindrical radar reflectors.
						22	Inspect roller furling gear turning blocks and line for wear. Wash lower unit bearings with fresh water.
						23	Inspect all blocks (and attachments) for stressed/bent parts.
						24	Inspect running rigging and dock lines for wear, stiffness or fading. Replace as needed.
						25	Check all standing rigging for broken wires.
						26	Clean and lube sail slides for main with McLUBE dry lubricant or as per mfg recommendations. Inspect any lazy jacks.
						27	Check tune of rig, and retune if necessary. Recommend installing limiter on adjustable backstays.
						28	Lubricate all threads on standing rigging turnbuckles with PERMATEX, unless coated with LANOCOTE.
						29	Replace all cotter pins (if removed). Recommend going with stainless welding rod rather than cotter pins.
						30	If boat remained in service throughout winter and sails are more than 2 years old: Remove sails, deliver to sail maker/loft for inspection/reconditioning, and ask sail maker to ensure minimum three tell tales on both main (leach) and jib (luff).

					31	Bend on sails.
					32	Assure "stop knots" at end of all halyards and all sheets.
					33	Fill water tank(s) and assure domestic water pump and all faucets including swim step shower and sea water washdown are working. Verify no damage to hoses over the winter. Check/clean/replace (if needed) any fresh water filters.
					34	Review invoices from the winter and remind owners of any work that would prompt necessary operational changes in Notes from the Owner.

Turnaround Service

After each charter log engine hours (genset hours if applicable).	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET
	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET
	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET	DATE	INITIAL	ENGINE	GENSET

AFTER EACH CHARTER	DATE	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
1. Place hand on shorepower/boat connector to assure no heat. If warm, notify Maintenance Pro. Assure batteries are being charged.																
2. Check oil (use oil recommended by engine manufacturer) and coolant levels in engine and genset (if applicable), add fluids as needed.																
3. Check belts for tension (1/2 inch deflection), wear (look for black powder and cracks in belts). Adjust or replace.																
4. Check/clean sea strainers on engine (genset if applicable) (Check center bilge for water, empty if wet.) Monthly, lubricate strainer gasket.																
5. Check oil pads, clean/degrease engine bilge, replace pad if dirty. Trace any fluid leaks.																
6. If unsealed batteries, check battery water levels, top off if needed.																
7. Check extra oil (quart-size only) and coolant supply.																
8. Check transmission oil levels. Note: Leave no transmission oil onboard.																
9. Check/clean shower, bilge pump and potable water strainers.																
10. Quick visual check of standing and running rigging and stanchions and life lines.																

Fall Winterization (2022)

"M" & "O" assignments due by October 15. Unassigned items will be designated "M".

Complete no later than November 15 (or earlier for freeze damage control):

Choose one:		Date		Item
O	M	completed	Initial	
				1 Mark chain. SJS recommends weaving a single strand of yellow polypro line (or yellow Amsteel) through links to mark chain. Weave an 18"-24" section every 25'. Include a 2nd segment of line every 100' (eg. at 100' weave a 24" segment with polypro, leave a 12" gap and then weave 24" more inches). During chain marking remove all chain/rode from locker, clean locker and assure that drain is clear.
				2 If there is a swivel, assure that there is a shackle between anchor and swivel connector to chain. Assure shackle pins are secured with seizing wire, including on shackle at chain's bitter end. Check that pin is secure on SS swivels that cannot be seized; if in doubt, re-bed with blue Loctite. Assure bitter end of chain can be cut from boat in emergency.
				3 Assure hard plastic label from SJS office is affixed in vicinity of anchor lid (preferably under lid) giving above chain marking info. (If owner opts for different markings, provide those to SJS so that a placard can be made.) Make sure owner's note match.
				4 Make sure start and house bank batteries are topped off with water (if applicable).
				5 Perform load test on start and (if applicable) bow thruster batteries. Check battery voltages "at rest" for at least 4 hours, with neither load nor charging and, on unsealed batteries, at proper water level. Load test all batteries with electronic or 800 amp carbon pile load testers. Follow respective protocols for amp draws/time. Label batteries "Load tested: date and results" so as to track capacity trends. Assure all connections are tight and coated with silicone grease.
				6 Perform draw-down test on house batteries. Use a fixed draw (eg. a light bulb) to draw down all useable amp hours according to battery manufacturer voltage/capacity curve. If batteries are below 50% of their rated amount of useable amp hours either restore capabilities or replace batteries. Label batteries "Draw down tested: date and results" so as to track trends. Assure all connections are tight and coated with silicone grease.
				7 Make sure inverter won't automatically turn on (in case of power loss.)

	M			8	After thoroughly cleaning center bilge area with fresh water and bleach (enzyme-type cleaner recommended; vinegar inadequate) and keel bolts with bronze brush, dry and coat all “naked metal” keel bolts/nuts (those without paint or fiberglass coatings) with LANOCOTE as a moisture barrier to inhibit “pink” pigment electrolysis corrosion and rust. (NOTE: Fall is preferred but may be moved to winter.)
				9	Test the electric and manual bilge pumps to ensure they pump water. Protect manual pump(s) from freezing. (Assure there is one bilge pump on a float switch “hot wired” to the house bank.) Test high water alarm, if applicable.
				10	Put hand on shorepower/boat connection. If warm, find source of heat buildup. Check shorepower cord connection (male end, at dock box) for signs of black electrical arcing on prongs or prong holes. If present, cord has a short inside...replace cord. Inspect (if arcing, replace fitting) and lubricate prongs at vessel’s electrical receptacle and at end of cord with dielectric silicon grease.
				11	Check antifreeze level and freezing point in engine, (genset and diesel furnace hot water cabin heat system if applicable). Add protection if necessary. Test with PH test strips, and add corrosion inhibitor to heating system and/or engine(s) as necessary or as indicated by manufacturer recommendation.
	M			12	Oil analysis recommended at every oil change but required once a year in the fall. (If, according to manufacturer specifications, engine, genset or transmission oil change will be due within the 1st or 2nd charter of the upcoming season, recommend changing during the fall to save work in the spring and allow for fall oil analysis.) Pick up oil sample kit from TriCounty. Take oil samples (old oil, before change) from main engine, transmission, (and genset if applicable) and submit to testing service for analysis and
				13	Inspect dodger for signs of deteriorating stitching, pulled-out grommets, loose or missing snaps (male and female), mold/mildew, strap and buckle failures. If any issues are detected, arrange with canvas specialist for repair. If removed, store repaired dodger below decks, making sure dodger is not touching the overhead or ceilings for good ventilation. (Recommend removing and storing all dodgers and biminis below decks, or make cover for off season.)
				14	Check seals / O-rings on deck filler caps. If deteriorated, replace to prevent leaks (especially water into diesel tank and contamination into fresh water tanks). Use only nitrile o-rings on fuel caps. For any caps with detached lanyards that are difficult to re-secure, assure replacement caps are in spares. Lubricate with NSF-approved SUPER LUBE.
				15	Affix nylon string or zip tie, as applicable, to dorade vents and dingy seats to prevent loss.

				<p>16 Winterize dinghy: 1) Remove floorboards or inflatable floor from inflatable dinghy, if applicable. Thoroughly wash sand/rocks from inside hull. If wood floorboards/transom, check condition and, if needed, re-varnish or repaint each with PETTIT EZ-POXY paint (gray recommended). 2) If inflatable, re-insert floorboards and inflate, verify leak-free. (If leak, Aquaseal recommended by LFS) 3) Clean with SUPER CLEAN (NOT acetone) or SEA POWER cleaner/wax. Protect with 303 AEROSPACE PROTECTANT, ISLAND GIRL protectant or FLEET WAX. 4) If bare aluminum hull assure bonding protection. 5) Store in dry storage, upside-down on bow, or on dinghy rack, secure for winter (if on dinghy rack assure clearly labeled, visible from outside).</p>
				<p>17 Run outboards until out of fuel and ensure outboard is covered. For boats with larger separate fuel tanks dispose of fuel. Flush larger outboards with fresh water.</p>
				<p>18 If boat normally is bow in to the north, turn boat around so bow faces south for the winter.</p>
				<p>19 Change out 'summer' dock lines with older lines and add chafe gear. Double tie where you can.</p>
				<p>20 Evaluate teak to see if it needs fall treatment.</p>
				<p>21 Confirm all stanchions secure. If stanchions have tension bolts for uprights, check bolt tension. (if loose, apply LOCTITE and re-tighten.) Confirm lifeline gates and latches operate smoothly, lubricate. Tension any cables between stanchions as required for tightness and safety. Check for rust at life line fittings. Inspect cotter rings. Check for leaks under stanchions.</p>
				<p>22 Spray swages with WD40 (protect deck before spraying) or Lanacoat to clean/protect.</p>
				<p>23 Inspect BBQ and replace any worn parts, remove from rail and stow in cockpit locker for winter protection. Dissassemble/clean burner (or replace burner).</p>
				<p>24 Assure fuel tanks are full. Optional: Add either STANADYNE (1 oz per 4 gallons) or DIESEL KLEEN (1oz per 3 gallons) and Racor Biocide (1 oz per 40 gallons "shock", per 80 gallons maintenance).</p>
				<p>25 Recommend running an ozone generator for a few days to kill mildew. SJS has one that can be reserved/checked out.</p>
				<p>26 Check ports and hatches for leaks. Reseal where necessary. Clean and coat opening port and hatch gaskets with glycerine or silicon grease.</p>
				<p>27 Ensure cabin is properly vented, heater(s) set properly, cushions lifted or removed, all drawers/doors secured open with blue painters' tape for ventilation and heat to prevent mildew. Recommend dehumidifier.</p>
				<p>28 Close all seacocks below waterline except engine and genset (if applicable) for winter months to minimize danger from seacock, pipe and hose breakage.</p>

				29	If bowthruster, assure circuit breaker off or battery disconnected.
				30	Holding Tank: open inspection plate; add ½ box of baking soda or Un-Cloric Acid; fill with water to above level of gunk on walls; after 3 day soak, drain and pressure wash with hose nozzle to remove all gunk. Detach inlet hose from tank; pour continuously unchloric acid into toilet and pump until unchloric acid reaches tank end of inlet hose. Cap hose; allow to soak for 3 days. Flush hose and tank thoroughly. (A high pressure hose flush may be used as an alternative to unchloric acid.) Add prescribed amount of “No Flex Digester” to tank via toilet (follow directions on container).
				31	RECOMMEND: On all holding tanks, use 1" air vent hoses (replace vent fitting with 1") to prevent overflow clogs (debris) in the vent hoses leading to "vacuum lock" which prevents/hinders holding tank discharge, and for odor abatement (microbes in tank need lots of oxygen). For through-hull, use stainless steel (Mfg # THMB1.000S by Marine Hardware). In most cases, leave the "clam shell" off. OPTIONAL: For better aeration, microbial action and odor reduction, install two.
	M			32	Service all Jabsco toilets: Either replace flapper and duckbill valves, replace pump or replace entire toilet (fairly inexpensive). All other toilets, inspect and service as recommended by manufacturer. RECOMMEND: Replace any manual Jabsco or Raritan toilets with MasterFlush or Dometic electric toilets with sea water or fresh water option.
				33	Winterize heads (and shower sumps, if applicable) per manufacturer recommendation.
				34	Check accuracy of holding tank “full” lights and gauges. If floating sensor mechanism, clean and lubricate. If in-tank sensors, clean off film. RECOMMEND: in-tank single-stage “red light full” type or external detectors, depending upon the type of tank. (None are totally reliable.)
				35	Check with owner regarding fall/winter use of vessel before removing sails. Based on that schedule, remove sails and stow. Recommend stowing in a berth with adequate air flow.
				36	For all sails more than 2 years old, deliver sails to sailmaker/loft for annual inspection/repair. Ask sailmaker to ensure minimum of 3 tell tales each on main leech and jib luff.
				37	Open all faucets and drain fresh water tanks, scrub interior (if accessible) to remove algae, rinse, treat to prevent algae build-up. Bleach will work for plastic and fiberglass tanks but not aluminum tanks (here use vinegar or Thetfolds). Next day, rinse, flush twice and drain tanks and lines to prevent freezing. Remove swim step shower fixture, attach to hose with zip tie.
				38	“Pickle” watermaker (if applicable).
				39	Clean and reorganize all exterior lockers. Make sure stored items are clean, dry and belong in that location.
				39	Install winter canvas and associated protective items.

				40	Be sure any lines running up the mast are secured in such a way that they will not slap in the wind - be kind to your neighbors!
	M			41	Read Notes from the Owner while onboard the boat (for reference). Notify boat owner of any equipment that does not work as the Notes state, or information that has become obsolete due to equipment changes.