San Juan Yachting Preventive Maintenance Schedule

Boat Owners and their MPs are responsible to keep this ONLINE PMS up to date so that owners, MPs, SJY 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: 2020
Vessel: Maintenance Pro: Charter ready date: 4/17/2020 (To be selected by boat owner. Default date is 4/17/19.)

RESPONSIBILITIES: The Maintenance Pro (MP) will contact the Boat Owner (O) so the O can decide who does what, after which the MP will circle the “M” or the “O” by each task ONLINE). As each task is completed, the person completing the task will initial & date this ONLINE PMS.

CHARTER-READY CERTIFICATION: Vessels are eligible for charter only when 100% of the “essential” Pre-Season Preparation steps are completed, initialed & dated. If the boat is not certified “charter ready”, charters will be moved to another vessel.

Complete Before:
3/6/2020 · Haulout – completion at least six weeks before charter ready date.
3/20/2020 · Spring Pre-Season Preparation – completion at least four weeks before charter ready date.
3/27/2020 · Interior Deep Clean – completion at least three weeks before charter ready date.
4/3/2020 · Shakedown Cruise – completion at least two weeks before charter ready date.
4/10/2020 · Exterior Deep Clean – completion at least one week before charter ready date.
# Fall Winterization

"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):

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Perform draw-down test on house batteries. Use a fixed draw (e.g., 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.

Check antifreeze level and freezing point in engine(s), (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 recommended by manufacture.

Assure fuel tanks are full. OPTIONAL: Add either STANADYNE (1 oz per 4 gallons) or DIESEL KLEEN (1 oz per 3 gallons) and Racor Biocide (1 oz per 40 gallons “shock”, per 80 gallons maintenance).

Oil analysis recommended at every oil change but required once a year, preferably during the fall so that any findings may be addressed over the winter. (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 Tri-County Diesel. Take oil samples (old oil, before change) from main engine, transmission, (and genset if applicable) and submit to testing service for analysis and recording in oil sample log. Report any problems to owner and SJY.

Check seals / O-rings on deck filler caps. If deteriorated, repair to prevent leaks (especially water into diesel tank and contamination into fresh water tanks). For any caps with detached lanyards that are difficult to re-secure, assure replacement caps are in spares. Assure spare fuel cap is Nitrile. Lubricate with NSF-approved SUPER LUBE.
WINTERIZE DINGHY: 1) Thoroughly wash sand/rocks from inside hull. Remove floorboards or inflatable floor from inflatable dinghy, if applicable. 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 re-inflate dinghy, verify leak-free. (Aquaseal recommended by LFS) 3) Clean with SUPER CLEAN (NOT acetone) or SEA POWER cleaner/wax. Protect with 303 AEROSPACE PROTECTANT or ISLAND GIRL protectant or FLEET WAX. 4) Clean any stainless steel on dinghy and coat with metal wax. 5) If dinghy will be staying on davit install cover (if applicable) and pull plug to allow water to drain. 6) Assure seat is attached with a lanyard. 7) Aluminum hulls should have bonding protection.

Inspect davit/crane system. Inspect cable/line for damage/wear. Inspect crane body and attachment point for signs of stress/damage. Service per manufacturer recommendation. Spreay terminals with BOESHIELD. Inspect where davit/crane attached to boat itself as well.

On tenders with wheel steering, remove, clean and lubricate cable in tilt tube. Check running lights, anchor and electrical systems.

Outboard serviced/winterized by maintenance pro or an outboard professional. Empty gasoline from carburetor and outboard tank. Remove outboard battery and connect to interior battery system for winter (or plan to replace battery in spring). Recommend: Remove and store outboard indoors (or cover). If outboard has hose attachment flush with fresh water.

Inspect BBQ and replace any worn parts, remove from rail and stow in cockpit locker for winter protection. Disassemble/clean burner (or replace burner).

Check exterior teak. Renew areas as necessary. (Starting in September, look for first good weather window and break in boat’s schedule.)
18
Confirm all stanchions secure. Re-bed if necessary. Confirm rail gates, latches, swim ladder and securing mechanisms operate smoothly, lubricate. Tension any cables between stanchions as required for tightness and safety. Check stanchion cable fastener security.

19
If your boat normally is bow in to the north, turn boat around so bow faces south for the winter.

20
Change out 'summer' dock lines with older lines and add chafe gear. Double tie where you can.

21
Thoroughly clean and dry bilge (all compartments). Recommend enzyme-action cleaners or bleach. (After season, vinegar is inadequate to eliminate bilge odors). Repaint if necessary.  

   NOTE: This item may be done anytime during the off-season, but fall is preferred.

22
Check ports and hatches for leaks. Reseal where necessary. Clean and coat opening port and hatch gaskets with glycerine or silicon grease.

23
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 draining to bilge or sink (make sure corresponding seacock is open).

24
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. Also winterize windshield wiper washer system, washer and ice maker as applicable.

25
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 installed.

26
Close all seacocks below waterline except engine (genset if applicable) for winter months to minimize danger from seacock, pipe and hose breakage. (Exception for dehumidifier drainage.)
27 “Pickle” watermaker (if applicable).

Holding Tank: open inspection plate; add ½ box of baking soda or unchlorich 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 vinegar or unchloric acid into toilet and pump until vinegar/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 un-chloric acid.) Add prescribed amount of “No Flex Digester” to tank via toilet (follow directions on container).

29 Winterize the heads (and shower sumps, if applicable) per manufacturer recommendation.
**Winter watch and storm check**

**Storm Check:**

October - April during and after storms (complete 1-6 below)

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1. Check bow, stern and spring lines for wear, alter/replace (add chafe guards) as needed. Recommend double bow lines to the finger pier cleat for added holding in storms.
2. Check fenders for placement, pressure, wear.
3. Assure tender remains secure.
4. Check power cord (make sure it’s out of the water). Place hand on shorepower/boat connection to feel for warmth/potential fire hazard. Assure batteries are being charged.
5. Check canvas (dodger, bimini, exterior window coverings, rail protective covers, dinghy and/or outboard covers, etc.) and secure as necessary. These items tend to “unzip” or “unsnap” in high winds, then flog or rip and even blow overboard.

**IF SEVERE FREEZE IS PREDICTED:**

Confirm anti-mildew heater(s) “on”. While below, inspect for mildew, clean if necessary. Adjust temperature setting to higher-heat setting. **IMPORTANT:** Following freeze, lower temperature. Turn on diesel heater during severe freezes.

**Monthly Off-Season Winter Watch**

Complete 1-9 below:

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1. Start main engine(s) and genset, run under load (in gear, forward and reverse) up to operating temperature to prevent corrosion of cylinder walls and on transmission gears.
2. Run diesel cabin heater (on highest setting) for a minimum of 30 minutes.
3. Run refrigerator/freezer (icemaker if applicable) for a minimum of 30 minutes.
4. Check bilges. Operate all bilge pumps and float switches.
5. Rotate steering to lubricate shaft and reduce exacerbated passive electrolysis.
6. Conduct security check for entry, damaged or missing equipment. Notify SJY if problems.
7. Check ports/hatches to make sure secure and not leaking.
9. Put hand on shorepower/boat connection. If warm, find source of heat buildup. Check boat fitting and shorepower cord male end, at dock box for signs of black electrical arcing on prongs or prong holes.

10. Assure batteries are charging and on “float”.

11. If dinghy still on davit, check to make sure inflated and draining.

12. Inspect and, if necessary, replace engine and genset zins. (If monthly checks reveal a slow rate of deterioration, then less frequent checks okay.) List comments below:
### WINTER

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

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1. Disassemble, lubricate and inspect anchor windlass. Clean and spray windlass switches. Check brushes, springs, and electrical connections and ground wire attachment bolt for tightness. Open solenoid box, if applicable, and check for arcing. Check for voltage drop. Verify snubber/bridle is in good condition and stored in correct location.

2. Anchor 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.

3. Replace batteries in CO detector(s). Recommend at least one hard-wired CO detector. Check sensor for expiration date, replace as needed.

4. 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".
5 In FEB or MARCH: 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. RECOMMEND: AGM batteries. OPTION: Check battery capacity using a 40 (or other) watt 12 v bulb for a specified period of time, ideally on a timer, until 100 Ah have been consumed. Measure starting and ending voltages to determine remaining battery capacity. For example, if 12.8v is full on a boat, and 11.8v is considered empty (beyond which damage would occur) if voltage shows 12.3v after 100Ah has been consumed, there is 100Ah remaining, indicating a total battery usable capacity of 200Ah. This method, in addition to using less expensive equipment and likely fewer labor hours, taxes the house bank at its more normal rate of discharge.

6 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 7-12 years.

7 Color code electrical panel based on usage and verify that coding system is reflected in notes. For example, if using the dot system you might mark breakers that should never be turned off with 2 green dots, breakers that are on when underway (eg. chart plotter or radar) with one green dot, breakers that should only be on when in use and not left on (eg. macerator) with a yellow dot, and unused breakers or anything that should never be switched on during a charter (eg. a pickled watermaker) with a red dot. Photos of successful marking systems can be provided upon request.
8 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.

9 Replace raw water impeller in engine(s) and generator using on-board spare(s). Replace spare with new. (Goal = to start spring with new impeller.) Label in engine compartment when changed and when due again.

10 Replace primary fuel filter on engine(s) and genset, bleed fuel system and assure no air locks, test for proper operation and no leaks. Replace in-line and/or secondary fuel filters every year or every other year depending on mfg specs.

11 Check belts for tension (1/2 inch deflection) and wear (look for black powder and cracks in belts). If in doubt, replace.

12 Check integrity of heat exchanger, exhaust elbow and after-cooler on engine(s) and gen-set. Remove, inspect and pressure-test heat exchanger core (San Juan, Orca, Sea Camp or Whatcom Radiator can pressure test). Change engine zincs as needed.

13 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).

14 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 BOE SHIELD anti-corrosion spray.

15 Clean/check electrical connections on engine, including start solenoid.

16 Check hydraulic steering systems for fluids and leaks. (If applicable, oil steering cable sheaves with #30 oil; check tension and wear of steering cable.)
17 Check throttle and shift controls including cables, lines and connections. Lubricate, adjust or replace, as needed. Check pressure in Hynautic system, if applicable. **RECOMMENDED:** Pre-run spare cable(s)/line(s) to engine(s) and transmission(s).

18 Tighten all engine, transmission and generator (if applicable) fittings and motor mounting bolts. Check coupler bolts.

19 If flying bridge, remove and check exterior ignition control panel for water intrusion, loose wires and corrosion, spray with Corrosion X or BOE SHIELD anti-corrosion spray to prevent corrosion/rust.

20 Check all bolts, screws, hose clamps, engine fittings for tightness, throughout boat.

21 Check hoses throughout boat for wear (i.e., chafe, cracking, swelling and general deterioration). Replace if in doubt. Add chafe guards as necessary.

22 Renew interior varnish to “like new” varnished and/or oiled finish. Inspect bulkheads, tables, doors, steps and cabin sole. Expect to add an additional coat of varnish or polyurethane [inspect Polyurethane surfaces—may last more than one year] to heavy-traffic areas of your wooden sole annually. Clean carpeting as needed and replace if worn.

23 Replace any non-skid on stairs if worn. Clear tape coated with varnish or brown non-skid tape recommended.

24 Renew interior and exterior painted finishes as necessary, especially in bilge and lockers for pristine like-new appearance.

25 Service the diesel cabin heater (follow service manual) or subcontract to authorized service technician or company.

**WEBASTO:**
- Forced Air System: inspect/replace filter, check lint/dust around cowlings, 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 hours. Change fuel nozzle, change water conditioner filter, wipe photo eye clean, clean electrodes.
26  Personally review, have MP review or contract with SJY professional writer to review “Owners Notes” and edit for accuracy and completeness. (NOTE: Inaccurate procedures or poor descriptions result in excess calls to and charges by your Maintenance Professional, or damage to the boat.)

27  Inspect (and operate) stove top and oven burners for scale and rust. Assure proper operation. Change battery on ignitor, if applicable.

28  Inventory tools in onboard toolbox against SJY’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.

29  Inventory spare engine parts against SJY “Engine Spares” (list on next tab). Place items in plastic (e.g., Sterilite) box labeled “Engine Spares”. Confirm that all engine spares are aboard.

30  Inventory general spare parts against SJY “General Spares” (list on next tab). Place items in plastic (e.g., Sterilite) box labeled “General Spares”. Confirm to SJY that all general spares are aboard.
### 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 raw water filters (for watermaker if applicable)
  - Spare belts for engine(s), (generator if applicable)
  - Spare impellers for engine(s), (generator if applicable)
  - Impeller "pull" tool
  - Spare impeller plate gaskets for each

**INITIAL**
- In a compartment (with location noted in Inventory):
  - 1 gallon spare oil for each engine – write “Main Engines Only” on containers
  - 1 quart spare oil for generator (if applicable) – write “Generator Only” on container
  - 2 gallons of appropriate engine coolant (NOTE: Not automotive engine coolant.)
  - If wet cell batteries, 2 gallons of battery water (distilled) – write “for batteries” on container (if applicable)

### 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)
  - A set of outboard spark plugs
  - Minimum of a dozen 12-inch zip ties
  - 2 hose clamps for each size fitting
  - 6 cotter rings, various sizes (if vessel has lifelines)
  - Various screws, nuts, bolts
  - 2 spare lifeline pins – clevis pins
  - Stainless seizing wire
  - Spare fuses for any in use onboard.

### EQUIPMENT SPARES
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 davit remote
Spare starter
Spare alternator (unless deemed too complex by MP). Spare high output Balmar w/ smart regulator is expensive.
Spare propeller(s) with prop nut assemblies, zins, etc.

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

Coolant conditioner filter
Fuel Nozzle
Photo eye

TOOLS

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

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

2. West Marine 133-piece tool set (SJY bulk buy). Can be taken out of plastic holder and stored with other tools in bag.
   Set contains:
   Open-end box wrenches:
   • SAE 3/8”-5/8”
   • Metric 10,12,13,14,15mm
Socket wrenches:
  • SAE 5/32”-1/2” x ¼” drive
  • Metric 4-12mm 3/16” x ¼” 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, ¼” adaptor
3/8” drive ratchet
6” adjustable crescent wrench
5” needle nose pliers (with wire cutter)
5” pliers
Small needle nose pliers with built-in wire cutter
Electrical crimping tool
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 04/17/20 the annual haul-out must be completed by 03/06/20.

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### Before Haul Out

1. Grease rudder shaft(s) (if zerk fitting available), check adjustment of rudder packing gland (if applicable).

### Haul Out

2. Schedule boat for haulout with yard and deliver to yard.
3. Pressure wash bottom (normally done by yard).
4. Check hull for damage. Check running gear for damage: shaft(s), strut(s), prop(s), rudder(s), tabs. Report any damage to SJY. Arrange for any necessary repairs after consulting with SJY. (SJY expense if could be detected by diver, unless caused by owner.)
5. Evaluate condition of bottom paint. Complete 5 and 6 below, or comment below. Note: ablative paints recommended; after years or coats of ablative, occasionally repainting may not be necessary. Some owners opt for the initial base coat in a different color than subsequent coats. This allows easy identification of when additional coats are needed.
   - Maintenance Professional’s Paint Condition Evaluation/Comments:
6. As permitted, sand or rough up existing paint surface (where needed) to prepare for fresh coat of bottom paint. For any bare fiberglass, wipe surface with acetone and add barrier coat prior to painting.
7. Obtain 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.
8. Sand propeller shaft(s) and propeller(s) with #400 sandpaper. (Optional: spray with PTFE grease to help inhibit marine growth.) Check cotter pin on proppnut if applicable.
9 Replace hull, shaft, rudder and trim tab zins.

10 Rub out hull gelcoat scratches with rubbing compound. Inspect for chips and scratches through the gelcoat. (Report any chips/scratches through gelcoat to SJY. Arrange for any necessary gelcoat repairs after consulting with SJY -- SJY expense, unless caused by gelcoat voids or by owner.)

11 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.)

12 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.

13 Perform bonding test to check resistance between all underwater metals. Investigate anything over 1 ohm.

14 Check condition of cutlass bearing(s) for wear.

15 Check, re-pack or replace shaft seals as necessary.

16 Evaluate rudder play. If excessive, find cause and correct.

17 Service thruster(s)...if applicable. (Follow service manual and assure power disconnected.)

18 Every 5 years, have the fuel tanks professionally checked. If sediment is found, polish the fuel in every tank to remove sediment and bacterial growth. Note: Below wood inspection plate, label or write on the tank 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.)

19 Refloat boat, deliver boat to slip and secure.
If there is any indication that re-alignment may be required, 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.

Disconnect power from thrusters if present.
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 04/17/20 the preseason checklist must be completed by 03/20/20.

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<td>1.   For AGM batteries perform deep cycle charge (draw down below 12v and charge hard) to reduce sulfation. Refer to battery manufacturer specifications.</td>
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<td>2.   Check that the charge profile on battery charger, alternator, and solar (if applicable) match battery specifications.</td>
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<td>3.   Reconnect power to thrusters and test.</td>
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<td>4.   Start engines and genset (if applicable), verify proper operation.</td>
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<td>5.   Leak tests propane system. Check propane locker drain. Check date on tank and replace or hydro if needed.</td>
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<td>6.   Check exterior teak. Renew areas as necessary.</td>
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<td>7.   Turn on running, anchor (assure LED), and exterior courtesy lights, check and replace as necessary. Replace all bulbs with LED (rated for non-RF noise) as they burn out.</td>
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<td>8.   Assure windshield wipers are operational with supple rubber blades and sufficient pressure on glass to remove dew and rain effectively. Repaint arms and lubricate (or replace) springs as needed. Test washer system and assure fluid is topped off.</td>
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<td>9.   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, or Boat Life teak deck powder, scrubbing across the grain. Rinse thoroughly. Do not oil teak decks!</td>
</tr>
</tbody>
</table>
10 Install canvas if removed and inspect for mildew or dirt and if present, clean with “Oxy Clean” or other recommended mildew remover (or machine wash on gentle cycle with Woolite or Oxy Clean, line dry). Re-waterproof with silicone water proofing after washing. Replace tension bungees and snaps as necessary. Apply lubricant to all snaps. Assure all zippers operate smoothly and are lubricated.

11 Assure each portable piece of canvas is labeled for location (including port, stb; and location if multiple pieces.)

12 If inflatable tender, assure proper pressure. Confirm that there are no air leaks. Check painter for wear. Replace if necessary with a multi-filament soft polypropylene floating line (available from SJY, Owners Consumables Inventory)...minimum length 30', recommend 50'. Check bottom paint (if applicable), repaint as indicated. NOTE: For aluminum bottoms, use rubber washer in front of stop knot.

13 Change to summer dock lines and inspect for wear, stiffness or fading. Replace as necessary.

14 Before the first charter, remove all winter canvas (such as binnacle cover, winch covers, rail covers) and store in a dry location, not onboard

15 Make sure satellite TV or Sirius Radio subscriptions (if applicable) are current. Test all entertainment systems to assure proper operation, including cockpit speakers.

16 Turn on all interior lights. Replace all halogen bulbs with LED (rated for non-RF noise) as they burn out.

17 Assure all navigational equipment is operational and updated, including chart data. Make sure data card has coverage to the north end of Vancouver Island.

18 Before first use, open all seacocks. Assure that there are wooden plugs (appropriate size) attached with nylon string to each seacock. Assure all seacocks are labeled on hose or hull adjacent to seacock.

19 If applicable, and normally commissioned, commission water maker, supply spare filters, check water quality.
**Turnaround Service**

After each charter log engine hours (genset hours if applicable).

<table>
<thead>
<tr>
<th>DATE</th>
<th>INITIAL</th>
<th>ENGINE</th>
<th>GENSET</th>
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**After Each Charter**

1. Place hand on shorepower/boat connector to assure no heat. If warm, notify SJY.
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) and wear (look for black powder and cracks in belts). Adjust or replace.
4. Check sea strainers on engine(s), genset.
5. Check oil pads, replace if dirty, follow up any fluid leaks.
6. Clean engine bilge if necessary (degrease with WD-40 or degreaser), empty wet bilges.
7. Check sea strainers on engine(s), genset.
8. Check oil pads, replace if dirty, follow up any fluid leaks.
9. Clean engine bilge if necessary (degrease with WD-40 or degreaser), empty wet bilges.
10. Check sea strainers on engine(s), genset.

**IMPORTANT NOTE:** Leave no transmission oil onboard.

8. Check paper towel supply on rack in engine room, re-supply if necessary.
9. Check 110V is “on” at the electrical panel, charger “on”, refrigerator “on”.
10. Check strainers on showers, bilge pumps and potable water.
11. Check that tender is secure.
12. If requested by owner, cover boat and tender with canvas (if not turning around).
13. If unsealed batteries, check battery water levels, top off if needed.
14. If present, check vacuum gauges on fuel filters.
15. Check transmission fluid levels. **IMPORTANT NOTE:** Check with engine manual to be sure the proper oil or transmission fluid is used for individual makes/models. Do not leave transmission oil aboard.
16. Check rate of raw water lubrication of propeller shaft(s). Adjust if necessary (applies only to adjustable shaft logs). Check for water leakage at shaft log seal(s).
17. Flush outboard with fresh water if possible.

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<tr>
<th>MEMORIAL DAY DATE</th>
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<tr>
<td>OPTION: Add STANADYNE (1oz per 4 gallons of fuel) or DIESEL KLEEN (1 oz/3 gallons) to fuel.</td>
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<th>MID SEASON DATE</th>
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<tr>
<td>RECOMMENDED: Add additive to outboard fuel tanks (except 2.3HP Honda)</td>
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Change engine, transmission and genset oil according to manufacturer specifications. Oil analysis recommended at every oil change but required once a year, preferably during the fall so that any findings may be addressed over the winter.

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<th>DATE</th>
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</table>

1. Change oil and oil filter in engine(s) as indicated by manufacturer specifications (or oil analysis).
2. Change transmission oil (as indicated by manufacturer specifications or oil analysis).
3. Change oil and oil filter in genset (if applicable) as indicated by manufacturer specifications (or oil analysis).
4. Inspect and, if necessary, replace engine(s) and genset zins.