

# Maintenance Guidelines and Recommendations

## Engines and Generators

- Check engine oil, transmission fluid and coolant daily/before each use
- Change oil and filters seasonally or every 200 hrs. whichever comes first
- Oil analysis <https://stevedmarineconsulting.com/oil-analysis/>
- Change primary and secondary fuel filters seasonally, or if vacuum exceeds 5 in. hg. All primary filters should be equipped with vacuum gauges, see <https://www.proboat.com/the-vacuum-gauge-tool.html> for more on vacuum gauge selection, installation and use.
- Adjust valves per engine manufacturer's requirements (typically every 1000-2000 hrs.). <http://www.cruisingworld.com/how/keep-valve-train-track>
- Check belts monthly, replace every two years. <http://www.cruisingworld.com/how/orderly-transfer-power>
- Check/replace air filters as needed. These should be equipped with vacuum monitors. See <http://stevedmarineconsulting.com/fuel-and-air-filter-service-protocols/>
- Pressure test cooling systems annually.
- Flush and refill cooling systems every two years or 1000 hrs. whichever comes first. Coolant should be analyzed annually. <http://stevedmarineconsulting.com/photo-essay-may-2015/>  
<http://www.cruisingworld.com/how/engine-cooling-system-tips>
- Replace impellers annually.
- Change transmission oil every two years or 1000 hrs. whichever comes first.
- Check all heat exchangers' anodes every three months. Anodes should be aluminum rather than zinc.
- Treat fuel with Stanadyne Performance Formula with each fill.
- Check shift linkage at transmissions and remote control boxes monthly.
- Inspect motor mounts seasonally for deterioration, rust, rubber separation, loose hardware every six months.
- Inspect stuffing box seals, shaft and rudder, weekly.
- Line drip pan under engine with diapers and wipe down machinery to keep clean and be easier to notice drips or leaks.
- Inspect exhaust hoses and mufflers for leaks, corroded clamps, hose deterioration, monthly.
- Inspect fuel systems for leakage, hose chafe, monthly.
- Inspect engine starters and ground connections for corrosion, loose connections, monthly.
- Confirm operation of engine room exhaust fans, monthly.

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- Engine room checks <https://stevedmarineconsulting.com/engine-room-inspection/>
- “The Big Three” essential engine tasks  
<https://stevedmarineconsulting.com/caulk-and-sealant-selection-and-use/>

## Systems

- Hydraulic thrusters/stabilizers. Check level before use. Fluid should be analyzed and filter changed annually.
- Thrusters’ gear oil, check monthly, replace every five years.
- Test high water bilge alarms monthly.
- Test bilge pump wiring and plumbing, and test *by allowing them to pump water* seasonally. <http://www.cruisingworld.com/how/wire-and-plumb-your-bilge-pump-properly>
- Inspect engine room fixed firefighting system (after correcting deficiencies and installing the engine relay system), test annually.  
<http://stevedmarineconsulting.com/fixed-fire-suppression-systems/>
- Inspect all portable fire extinguishers quarterly, recommend at least two gaseous portable extinguisher be installed, one near the lower helm, and one near the back door, to be used in the engine room.
- Inspect steering gear monthly. Look for leaks, loose hardware and wear at rams, autopilots and helm pumps as well as PTOs if equipped. Check pressure reservoir. <https://www.youtube.com/watch?v=rw6YhZG6h94>
- Inspect primary fuel filters daily, look for water and sediment.
- Inspect battery banks monthly for corrosion, loose terminals or signs of overheating.
- Clean HVAC filters monthly.
- Test CO and smoke alarms seasonally.
- Replace hull anodes as needed, these should be aluminum and not zinc.  
<http://www.passagemaker.com/channels/galvanic-isolators-and-%C2%93zinc%C2%94-anode-selection/>
- If equipped, check stabilizer actuators, plumbing, manifolds and PTO-driven pumps for leaks, galling or fretting (metal dust), wear, chafe. Monthly.
- Inspect rudder shaft seals.

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## Plumbing

- Inspect and actuate all seacocks no less than every 6 months.
- Change potable water filters seasonally.
- Inspect or replace water heater anode every three years.
- Inspect all raw water hoses and clamps seasonally, look for signs of deterioration, chafe etc. <http://www.passagemaker.com/articles/technical/heating-and-air-conditioning/seawater-wake-up-call/>
- Inspect HVAC raw water pumps and plumbing, as well as condensate drains, every six months.
- Inspect toilets for leaks and proper operation monthly.
- Check and clean raw water intake strainers, daily.
- Clean out sink faucet aerators and shower heads from debris monthly.
- Flush all toilets weekly (if otherwise unused).
- Treat FW tank with chlorine periodically.
- Gray water systems – run water through P-traps monthly.
- Black water systems – clean tanks by filling with fresh water monthly.

## Electrical

- Inspect battery banks monthly for corrosion, loose terminals or signs of overheating. Insure they are secure.
- Check electrolyte (in wet cell batteries) monthly.
- Confirm inverter/battery charger settings annually.
- Inspect bonding system (if equipped) connections, annually.

## General

- Make sure all USCG requirements are aboard. Ensure life jackets out of plastic packaging.
- Inspect dock lines for chafe and fenders for inflation.
- Check shore power cords and ends and breakers.
- How to carry out a pre-offer evaluation <https://stevedmarineconsulting.com/wp-admin/post.php?post=5276&action=edit>