



**ALEXANDER & ASSOCIATES
MARINE SURVEYORS CORPORATION**

Maintenance Guide

PAGE ONE OF SIX

The following establishes a basic but comprehensive guide to Daily, Weekly, Monthly, Bi-annually and Annual maintenance for recreational vessels of all sizes and types.

DAILY

1. All engines and generators should be cold checked for oil and cooling fluid levels before starting every time. Note: All transmission levels should be checked for proper levels after starting.
2. Check all electronics for proper operation, especially the VHF and SSB Radios.
3. Check that all engines and generators are producing the proper amount of exhaust water at the transom after starting.
4. Check all bilge pumps and pump float switches for proper operation.
5. Check all bilges for any smell of gasoline fumes and or water before starting. Identify any leaks in fuel system or water and oil leaks and repair as necessary.
6. Check shaft stuffing boxes and rudder stuffing boxes for leaks. Tighten as necessary.
7. Wash vessel after every usage, keep blowers on while washing vessel after use to exhaust heat from engine space and thereby prolong hose life.

WEEKLY

1. Check all hoses for cracks especially at critical bends, these are easily seen especially when bending the hose.
2. Check all hose clamps for deterioration and insure that raw water hoses are double clamped.
3. Check all hose clamps for any sign of rust or deterioration.
4. Check exhaust elbows and system for any rust bleeds. If rust bleeds exist, retain qualified marine mechanic to pressure check same and replace as necessary.
4. Check all aluminum and stainless fittings for either pitting or rust and polish same.
5. Check outrigger fittings for rust as well as rigger turnbuckles, replace or repair as necessary.
6. Check windlass operation if applicable.
7. Check anchor line and thimble, change thimble if rust is present or chafe of line.
8. Polish all aluminum stantions, tower, T-Top and outriggers after washing vessel.

MONTHLY

1. Check all ball valves, seacocks and gate valves for free operation. Clean, free and grease as necessary or replace.
3. Check all shrouds and stays by running your hand down same. If your hand turns to the right when running your hand down same the shroud or stay is generally considered to have a broken strand. Call a qualified rigging expert to check all rigging.
4. Check all strainers for any algae or barnacle build-up especially the air conditioner strainers. Clean all strainers and replace gaskets if necessary.

MONTHLY (CONTINUED)

5. Check all fuel filters for water. For diesel engines add "Bio-Bor" or equivalent to tanks prevent algae growth.
6. Check all coolant fluids and replace same with "Nal-Cool" or equivalent if necessary.
7. Check running rigging on sailing vessels for any chafe and replace as necessary.
8. Check cam cleats on sailing vessels for proper operation. Replace same as necessary since springs can weaken.
9. Check mast and boom fittings for corrosion between mast and fittings and wire brush and re-bed same.
10. Remove all stainless screws from mast and boom fittings on sailing vessels and remove same from all aluminum tower or T-Top on power vessels and replace same with stainless screws with proper size nylon washers to prevent corrosion and bubbling of paint on painted aluminum surfaces. Note: The addition of the nylon washers will help stop corrosion between the aluminum and the stainless fasteners.
11. Check compass globe for clarity and fluid level loss. Send to factory for repair if fluid loss is noted or globe is sun damaged and card cannot be seen well.

BI-ANNUALLY

1. Check zincs in diesel engines and replace as necessary.
2. Check manifolds and risers on gasoline engines for weeping at gaskets. This is a sign of internal blockage in the risers if weeping is in evidence. Pressure check all risers and replace as necessary.
3. Have diver check all zincs, clean bottom and check leading edges of props for re-conditioning and balancing if necessary. If props are damaged haul vessel A.S.A.P. to prevent any damage to cutlass bearings or shaft seals on outboards.
4. Replace zincs as necessary. Note if zincs are deteriorated after (6) months then there is more than likely an electrolysis problem, bad shore power ground or stray current at dock. Retain a qualified Marine Electrician to troubleshoot problem.
4. Check to make sure all fuel tanks and fills are grounded with green thermoplastic covered wiring, Per CFR 46 and insure no corrosion exists at terminals.
5. Check all wiring terminal bars for corrosion, clean same with wire brush and coat them with wheel bearing grease. Note: Wheel bearing grease lasts longer than any other product and will provide very good protection under all conditions. Note: When applied to crimp terminals and applied over terminal bars wheel bearing grease will isolate the wires from corrosion creep and the terminal connectors from oxidation.
6. Check genoa sacrificial as well as spreader protection for sail. Have re-stitched as necessary.
7. Check all running lights, mast head, steaming, port and starboard and anchor lights. Repair or replace as necessary.
8. Change oil and filters bi-annually or on an hourly schedule if vessel is used a good deal.
9. Change all fuel filters if excessive smoke is noted after engines warm-up.

ANNUALLY

1. Haul vessel and check bottom for blisters. If present, grind same back and fill with vinyl-ester resin mixture, fair hull and re-coat with new bottom paint. Note: If bottom paint build-up is excessive, then sand bottom before re-coating to improve performance.
2. Check all cutlass bearings by lifting up on the shafts. If there is any slack replace cutlass bearings, dial indicate shafts and check alignment. Note: Alignment must be performed while vessel is in the water in a static condition.
3. On power vessels, check for any pitting on the rudders. This is usually a sign that the props are not the proper diameter or pitch. Note: When props are not the proper diameter or pitch for the vessel, aeration occurs, wherein the barometric pressure in front of the prop is so low that the water boils at room temperature, producing bubbles that explode or implode around the rudders causing pitting on either side of the rudders. In extreme cases pitting will be evident on the props.
4. Replace all zincs as necessary.
5. Check to see if all scoops are well bedded as well as transducers.
6. Check transducer speed wheels for any broken spokes. Replace as necessary.
7. Check all scoops for any barnacle growth and clean same. Note: Check thru-hull fitting interiors for growth also.
8. Tap sound hull with phenolic hammer for any delamination and check keel to hull joint.
9. For Sail Boats, check keel bolts if applicable and replace as necessary. Also, check keel to hull joint for any cracks or separation.
10. Hit props with a hammer. If they ring close to the sound of a bell they are in good condition, if they sound dull, electrolysis has occurred and props should be replaced.

ANNUALLY (CONTINUED)

11. Check all fire extinguishers and retain qualified licensed fire extinguisher company to weigh and tag same yearly Per CFR 46. Note: Fire extinguishers need be inspected after 4 years.
12. Check flares for expiration dates. Note: Flares expire after 3 years, check expiration dates on them.
13. Make sure all fire extinguishers are mounted to prevent accidental discharge.
14. Check all life rafts for expiration dates and have them certified by a licensed Life Raft company, yearly.
15. Check all E.P.I.R.B. batteries for current battery dates. Replace if necessary.
16. On outboards replace water pump impeller.
17. On outboards change lower unit oil, on inboards change transmission fluid.

NOTE: CFR=Title 46 Of The U.S.C.G. Code Of Federal Regulations, governing recreational vessels.

Note: The above items are only minimal requirements to keep a vessel in "Bristol" condition.

Please E-Mail at alexanderandassoc@netzzero.net or call us for any advice whatsoever, advice is free.