

* Most vessels over five years old will require some upgrading or replacement of electrical components as part of normal maintenance. The ABYC recommends ongoing improvements regarding requirements. Be sure to inspect the AC and DC systems regularly and consult a qualified marine electrician for advice.

ELECTRONIC AND AUXILIARY EQUIPMENT:

The electronic and auxiliary equipment aboard the vessel and proved at the time of survey unless otherwise indicated by a (N/P=not proved) includes:

- 1) Apelco VHF
- 2) Furuno GPS Navigator GP 31
- 3) Datamarine 5000 Series display (wind, speed, depth) (wind display arrow broken, wind direction suspect)
- 4) Raytheon ST 4000+ autopilot (wheel mounted cam supplied with restraining tether)
- 5) Ritchie compass
- 6) Manual windlass
- 7) 2 CQR and 1 Fortress anchors

FRESH AND RAW WATER PLUMBING:

The mixed plumbing lines, valves, hoses, tanks, pressure water pumps, water heater and thru-hull fittings incorporating the plumbing systems were examined and proved where possible. Vessels domestic and mechanical systems were winterized at time of survey. Thru-hull valves appeared to be easily manipulated, inventory valves and service to manufactures recommendations. Head intake, discharge and head sink discharge hoses are in poor condition; replace as required (ER).
NOTE: Tanks must be filled to discern structural integrity, and make certain fills, vents, and pickups are satisfactory (ER).

MAST AND RIGGING:

The single spreader aluminum deck stepped mast, boom, standing and running rigging were inspected from on deck and through a 7 X 50 power glass; the 1 X 19 stainless steel standing rigging appears satisfactory. Cotter pins are missing from the back stay turn buckles (ER). Tune the rig and lubricate turnbuckles at commissioning (RR). The running rigging is in serviceable condition, main traveler control lines are worn; running rigging will require systematic upgrades in the near

future. Winches and all sailing hardware should be serviced per manufacturers recommended intervals (RR). Life lines were loose and require tuning; some crazing/cracking was noted in the life line casings.

SAILS:

Sails inventoried at the time of survey included:

- North roller furler genoa serviceable condition
- Newer full battened main w/Dutchman system
- Older original main
- Spinnaker (in sock)

DECK GEAR & JOINERY:

Deck gear and joinery was inspected and found to be in good condition. Re-bedding of select deck hardware associated with elevated deck moisture readings is recommended (RR).

STEERING:

The steering was inspected from the quadrant area to the pedestal base. The steering cable is in satisfactory condition, some cable slack was noted, adjust cables as required (RR). The rudder post is firm. Emergency tiller was located at the rudder post; emergency tiller was not fitted at survey. Rudder post stuffing box appears to be in serviceable condition. Steering cable/quadrant appears to be chafing on one of the scupper hoses, excessive wear was not noted; secure hose as required (RR).

INTERIOR JOINERY:

The interior, including joinery, cushions and headliner were in good condition for a vessel of its vintage. No sign of deterioration in veneers or structure were noted.

GALLEY:

A 2-burner LPG stove and oven located in the galley was properly gimballed with suitable "crash bar" installed. Gimbal mechanism is in-operable, repair as required (ER). Combustible surfaces were well removed from cooking elements. A fire extinguisher as required by USCG was located within reasonable and visual access to galley area. There is also a double S/S sink with pressure hot and cold water.

LPG System; the remote propane solenoid switch was located at the main control panel and the regulator, solenoid and fuel lines were located in the propane locker in cockpit. The locker appeared to be sealed from interior spaces, was well drained and included proper securing devices for tanks. The aluminum tank was equipped with an OPD valve; regulator and solenoid, no LPG pressure gauge was noted (ER). System function was tested and appeared to be in serviceable condition. Leak test LPG system at commissioning.

MARINE SANITATION DEVICES:

The vessel was equipped with one standard manual head complete with porcelain bowl, telephone shower, and Type III marine sanitation device (a mechanism that is designed to prevent the overboard discharge of treated or untreated sewage or any waste derived from sewage). The holding tank was constructed of acceptable material, well vented, and the required plumbing and raw water supply, fits current installation standards. The head was inspected but not proved at the time of survey. Head intake and discharge hoses are in poor condition (see plumbing section)

FIRE:

Fire equipment on board at the time of survey included: 1 dry chemical unit located in the main cabin galley area. Fire extinguisher charge indicators registered in the green (usable range) but did not carry current certification tags.

SAFETY EQUIPMENT:

The safety equipment inventory required by the USCG is incomplete for the vessel's length and passenger carrying ability, eg., PFDs, flares, whistle, bell, first aid kit etc. (see "REQUIRED"). Safety equipment on board this vessel included:

- 1) PFD's
- 2) horn
- 3) flares (expired)
- 4) life sling
- 5) MOB light (N/P)

No carbon monoxide detectors or smoke detectors were noted

NOTE: It is the captain's obligation to insure all safety equipment as required by the USCG is provided and aboard the vessel at all times.

BILGE PUMPS:

The vessel is equipped with one automatic electric bilge pump equipped with a float switch and a manual bilge pump located in the cockpit. Electric pump auto float switch was not functioning at time of inspection (ER).

VENTILATION, ACCESS, BILGES:

Ventilation to most areas of the vessel is good, as it is to the engine room. The living area ventilation is acceptable with the hatches open. Access to the bilge is satisfactory. Fuel or fuel clean-up residue was noted in the bilge, additional cleaning of bilges is required (ER).

This vessel was carrying navigational lights as prescribed in the international regulations for preventing collisions at sea or in inland waters. Navigation lights were operating at time of survey; anchor light function was not confirmed.

NAVIGATIONAL AIDS & LIGHTS:

SURVEY NO: LI709361.CVS **PAGE:** 14 OF 18 **DATE:** December 17, 2009

ESSENTIAL REPAIRS:

The essential repairs, in my opinion, include all repairs and corrections necessary to restore and maintain the original integrity of the vessel. If these items are not attended to, it may lead to further damage or deterioration affecting the condition of the vessel, and endangering those aboard or near the vessel. The principles and practices used as guidelines are from the American Boat and Yacht Council, National Fire Protection Association and the United States Coast Guard. ABYC information may be obtained by phoning 410-956-1050, or E-mailing rlazer@abycinc.org.

Many **ESSENTIAL REPAIR** items require further inspection and often destructive testing to determine extent of damage and prescription for repair. The notes below pertain to some common items whose requirements may change with time or use, and are for your consideration.

NOTE: All underwater thru-hull fittings should be double clamped. If a seacock or through-hull fitting/nipple will not accommodate two clamps, install one atop the other.

Be sure all tanks, fills, vents, supply and return lines are satisfactory when filled to capacity. Be sure to comply with ABYC 33.16-16.3.4 (Fuel Systems Labeling).

ESSENTIAL REPAIRS (ER):

Immediate attention considered necessary for the safe operation of the vessel and/or repairs necessary to maintain value, prevent further deterioration or to comply with current standards as set forth by ABYC, USCG, and NFPA

- 1) Replace engine intake hose as required
- 2) Confirm integrity of fuel tank
- 3) Upgrade propeller nut installation
- 4) Monitor batteries during initial operation and/or test, upgrade battery installation
- 5) Install GFCI outlets as required
- 6) Install LPG pressure gauge
- 7) Upgrade head hoses including intake discharge and sink drain hoses
- 8) Install cotter pins in back stay

- 9) Repair stove gimbals securing latch
10) Repair bilge pump auto switch

RECOMMENDATIONS:

Recommendations represent changes that affect enhance comfort and value of vessel. The vessel's intended usage is considered in making these determinations. Implementing these suggestions is **recommended** as part of a practical ongoing maintenance program.

- 1) Secure throttle cable
- 2) Tighten belts
- 3) Service all machinery
- 4) Re-bed select deck hardware
- 5) Replace cutlass bearing
- 6) Service Datamarine unit as desired
- 7) Tune/tighten steering cable
- 8) Secure scupper drain from chafe
- 9) Seal skeg laminate under propeller as required
- 10) Service sailing hardware

NOTE: Bilges should be flushed and cleaned on a regular basis. (Do not flush into restricted waters).

NOTE: When using bedding compounds or marine sealants, be certain to purchase the proper marine product for the task. For instance, basic silicone is not recommended as a bedding compound for active hardware such as stanchion bases, cleats. Use 3M 5200 or Boatlife Lifecalk.

NOTE: It is prudent to anticipate some investment in fuel polishing, battery replacement, rigging adjustments and systems upgrading for a vessel that has been stored for any length of time. Even when a vessel has been commissioned not all requirements may have been fulfilled. Before making passage, all systems must be proved under full load or use for a greater period of time than allowed in a normal survey. Be sure to follow all good seamanship and prudent cruising habits. Repairs of boats and marine equipment often exceed expectations and estimates. It is advisable to obtain several estimates from qualified repairers.

THE REQUIREMENTS & INFORMATION BELOW ARE PROVIDED FOR YOUR INFORMATION AND CONSIDERATION

NOTE: Hoses for marine use should be labeled with the standards classification, either SAE, Coast Guard, MMA, ISO, UL or Lloyd's; the manufacturer's identification number, usage, the year manufactured plus other classifications as specified for each particular application. The construction should meet the need.

Be sure that the hose ends have the same inside diameter, have satisfactory wall thickness (thin-walled hose easily kinks and has poor abrasion resistance). Be sure that hoses are reinforced with wire or synthetic yarns. Marine-rated hoses are readily available, use the best product to avoid failure. Since 1999, flexible rubber hose bellows and elbows used in wet exhaust systems must comply with SAE J2006 standards and be so labeled. This means that the hose is temperature-rated at 593°C (1,100°F) for two minutes, the equivalent of running the engine at full power for two minutes.

Hoses that circulate engine coolant water must resist kinking, heat, antifreeze and oil. A heavy-wall, two-ply rubber hose, with or without wire reinforcing, is recommended, or substitute premium automotive black heater hose or blue silicone hose, both rated to meet SAE J20 standards

Gasoline and diesel fuel hoses must meet certain specifications (USCG TYPE A and B, UL 1114, SAE 1527, ABYC H-24 & H-33). They must be installed correctly and securely. Correctly sized inside diameter and fittings with crimped on ferrules, or 100% stainless steel clamps (double if possible without over lapping or beyond barb ends). Proper thread sealant on NPT threads must be used. Hoses must be safe from crushing, puncture, abrasion and kinking. They cannot be exposed to excess heat. All fuel system hoses and piping must be inspected for leaks, damage and age deterioration regularly.

A breach in a hose can flood or sink your boat. Use the best hose possible. Use only hose recommended for "below water line" connections constructed with a wire spiral helix reinforcement to prevent kinking, restriction and collapse under low pressure. A heavy wall rubber raw water hose with 2-ply and wire helix reinforcement is the best. Smooth vinyl hose with a hard PVC helix may also be used except where heat is a factor.

A. Required refers to items or equipment deemed necessary by the following regulatory bodies: United States Coast Guard (USCG, National Fire Protection Association (NFPA), American Boat and Yacht Council (ABYC). The following list identifies those areas of minimum requirements for the prevention and elimination of fire and explosion, safety of life measures, adequate ventilation and exits aboard this vessel.

B. Per the Federal Water Pollution Control Act, a placard stating "DISCHARGE OF OIL PROHIBITED", must be conspicuously mounted in the engine room. Secondly, according to Annex V of the "MARPOL TREATY," an international law promoting a cleaner, safer environment, a warning notice reading "NO PLASTICS OR GARBAGE DISCHARGE" must be displayed in a conspicuous area within the vessel. It is illegal for any vessel to dump plastic trash anywhere in the ocean or the navigable waters of the United States. Violation of these requirements may result in civil penalties up to \$25,000 fine and punishment.

C. Extinguishers recommended for the "engine compartment" shall be located near an entrance to the compartment rather than the compartment itself. EXCEPTION, Fixed Systems such as a Halon 1301 or CO2, carbon dioxide must be USCG approved and must incorporate a visible or audible means outside the protected space indicating the system is charged or discharged. Systems may be manually and/or automatically discharged.

The NFPA and USCG require that it shall not be necessary to travel more than half the length of the vessel to reach an extinguisher. Other rules and variables apply to engineered or pre-engineered systems installed in accordance with the USCG and NFPA installation manuals.

On boats having galley stoves, one of the required extinguishers of a suitable type shall be readily accessible.

D. IGNITION PROTECTION: ***DEFINITION ONLY***

The design construction of a device, such as battery selector switch, that under operating conditions will not ignite a flammable hydrocarbon mixture surrounding the device when an ignition source causes an explosion or is incapable of releasing sufficient electrical energy to ignite a hydrocarbon mixture. The source of ignition must be hermetically sealed to prevent such occurrences.

E. It is the captain's obligation to ensure all safety equipment as required by the USCG is provided and aboard the vessel at all times.