

Your impartial advocate for a safer, more reliable and less costly boating experience



Pre-Purchase Inspection Report

At the request of **Xxxxx XXXXXXX** ("Client") and in accordance with the terms of the Inspection and Confidentiality Agreements dated **July 12, 2019**, all of which are incorporated herein by reference and specifically made a part of this report, Steve D'Antonio Marine Consulting, Inc. ("SDMC") inspected a **Xxxxx 62 Xxxxx sailing vessel**, its systems and components (collectively "Vessel") on **September 24-25, 2019** in **Sydney, Australia** and has prepared this Pre-Purchase Inspection Report ("Report"). This Report summarizes the SDMC findings resulting from this inspection and sets forth SDMC's opinions and recommendations with respect to the Vessel.

The inspection of the Vessel was conducted both dockside and underway. The Vessel was hauled for this inspection and therefore observations concerning the hull below the waterline or running gear are included.

The inspection is based solely on a careful visual and non-destructive inspection of the easily and readily accessible portions of its structure and equipment. This inspection did not include removal of soles, decking, headliners, insulation, ceiling, bulkhead fascia, hull lining, tanks and their access ports and joiner work. Disassembly of these parts is damaging in nature and prohibitively time consuming. As such, SDMC has conducted this inspection without the benefit of such disassembly.

Complete inspection of machinery, auxiliaries, piping, tanks, systems, electrical wiring, electrical and electronic equipment can be made only by continuous operation or by disassembly which has not been done. SDMC recommends that the engines, generators, navigation, communication, water making and other

similar equipment or systems be inspected by a qualified dealer for the particular make of equipment, including but not limited to power loaded tests to determine the condition of the engines, gears, pumps, controls, instrumentation, heat exchangers, exhaust system and electrical components and filtration, duration and calibration testing of other equipment or systems.

SDMC did not make a determination regarding the stability characteristics or inherent structural integrity of the Vessel.

SDMC makes no representation regarding the ownership (legal or equitable), classification or regulatory status of the Vessel, all of which can only be confirmed directly by the certifying authorities.

SDMC makes no representation regarding the presence of mold, spores, fungus, mildew, lead paint or asbestos aboard the vessel.

SDMC's opinions and conclusions contained in this Report are not and should not be considered or construed as a guarantee or warranty, express or implied, regarding the condition of the Vessel. Furthermore, this Report shall not be construed, utilized or relied upon as a "Pre-Purchase Survey," "Marine Survey," "Insurance Survey," "Condition and Valuation Survey," "Appraisal" or other similar document as those terms are commonly known in the marine surveying industry.

This Report summarizes SDMC's opinions and conclusions regarding the condition of the Vessel as of **September 25, 2019** [Last date SDMC observed/inspected Vessel].

FINDINGS, OPINIONS and RECOMMENDATIONS REGARDING VESSEL¹

¹ KEY:

A: Critical safety item, direct risk of fire, explosion, electrocution, injury or loss of life, this item should be resolved before using the vessel.

B: Important, may compromise safe operation, the vessel may lose power, lose control or flood as a result of this problem. It should be corrected or addressed before using the vessel.

C: Not critical, this is a nuisance or merely undesirable but not *immediately* serious, however, it may lead to substantial failures and/or repair costs in the future.

D: Observation or not an action item.

ABYC: American Boat and Yacht Council (www.abycinc.org) compliance issue and relevant chapter in the Standards and Technical Information Reports for Small Craft (STIR) publication.

FRP: Fiberglass reinforced plastic or fiberglass

OCP : Over Current Protection, i.e. fuses or circuit breakers.

RW: Raw water, seawater or any water in which the vessel floats.

T: Time in labor hours required to correct, where applicable. This is a rough guesstimate **not** a quote.

WOT: Wide Open Throttle, the maximum rpm the vessel's engine has obtained under load (may be less than or greater than WOT specified by the manufacturer).

Unless otherwise noted, all temperatures are in degrees Fahrenheit.

ABYC Guidelines and what this means

A word on the American Boat and Yacht Council and their Standards, which are referenced in this report; The Standards and Technical Information Reports for Small Craft is a guide that is comprised of over 60 chapters that cover everything from LP gas installations and AC/DC electrical systems to reboarding ladders and hydraulic steering systems. It is the strong opinion of many in the industry, including SDMC, that conscientious professionals should follow these standards for a variety of reasons, not the least of which is liability. However, from a practical point of view, following the guidelines set forth in the ABYC Standards will very likely ensure that a compliant vessel is more reliable, less costly and safer to operate. The Standards, which are continuously updated, are available to ABYC members both on line and in printed format, in the latter case the book is over two inches thick.

For the most part, unless the vessel is gasoline powered or requires a Coast Guard or other agency inspection to operate, or if the builder participates in the NMMA/ABYC vessel compliance program, the Standards are *voluntary* for diesel-powered recreational craft. Other than those mentioned above, there is no specific mandate on the part of boat builders or boat yards to follow the standards. More information about the Standards is available at www.abycinc.org

Example entry

123. Seacock threads are incompatible, straight thread, NPS, through hull fittings are mated to tapered thread, NPT, in-line ball valves. These components are not designed to be mated together. B (severity rating of observation, see key above for additional detail). ABYC H-27 (relevant American Boat and Yacht Council Standard). T: 24 (guesstimated number of labor hours required to carry out repair, upgrade or correction). 101, 103 (last three digits of the number of the relevant photos provided in accompanying Drop Box photo folder).

1. Rode shackles should be disassembled, inspected, threads lubricated and reassembled and seized. B. T:1. 009-012.
2. The typical safe working load of the 3/8 rode swivel is 2200 lbs, the SWL of the 3/8" G4 chain is 5400 lbs, the SWL of the 3/4" shackle is 9,500 lbs, and the SWL of the 3/8" shackle is 1,500 lbs. Ideally, the connecting shackles and swivels should match, or closely approximate the SWL of the chain. B. T:2. 011-013.
3. The windlass chain stripper is bent. B. T:2. 526, 527.
4. The anchor roller pin nuts are not fully engaged. C. T:1. 015-018.
5. The forestay toggle nuts lack a seizing mechanism, or bolts are too short to engage the nut's Nylon insert. Confirm that all rigging fasteners are properly seized and/or long enough to engage locking nuts, in the latter case two threads should be visible beyond the nut's locking ring. B. T:2. 019, 020.
6. Confirm that the masthead light has a specified range of 5 miles (this is required for vessels whose overall length exceeds 20 meters, if the vessel is more than 12 meters and less than 20 meters the range must be 3 miles). B. T:2.
7. Lifelines are chafing at stanchions. Inspect all and ensure none are in need of replacement. B. T:2. 031.
8. Aluminum adjacent to stanchion set screws is corroding. Recommend set screws be removed, threads cleaned and inspected and then reinstalled using a thread locking/sealing compound. C. T4. 032.
9. StaLok fittings are stained in a manner indicative of internal corrosion. These should be disassembled and inspected. B. T:8. 033, 037.
10. The fuel and water deck fill cap O rings should be replaced and lightly lubricated with silicone grease. Ensure mating surfaces are true. The water fill cap is a PVS pipe plug, it is not designed to be used with an O ring. C. T:1. 039, 040, 128.
11. Paint is failing on foredeck hatches. C. T:24. 041-043.
12. Confirm gooseneck hardware utilizes a means of locking nuts to bolts. B. T:1. 053.

13. Lower gooseneck nut is backing off, and a larger washed should be used under the nut. B. T:1. 056, 057, 058, 072.
14. Paint is failing on the mast adjacent to hardware installations. C. T:24. 065, 066.
15. The vang hydraulics have been disabled. C. 073.
16. The vang to boom connection fitting has been moved, fasteners are missing. Consideration should be given to boom replacement. B. T:8. 079.
17. Many on rigging cotter pins are only slightly spread. One school of thoughts has it that this makes them easier to remove in the event of a catastrophic rig failure. While valid, this approach does make inadvertent cotter pin loss more likely. Some pins are simply not spread far enough; one example is the vang to boom connection. All pins should be inspected and spread sufficiently to prevent inadvertent loss. B. T:2. 077.
18. Mainsail reef point is badly chafed. B. T:8. 075, 076.
19. The traveler shackle is corroding. B. T:1. 081, 083.
20. The traveler arrangement and the manner in which blocks are attached to the deck is peculiar, consideration should be given to re-engineering this design. B. T:8. 082.
21. Fasteners securing tracks are causing corrosion to the latter, recommend these be removed, cleaned threads treated with a thread sealing compound, and heads bedded in polyurethane sealant. C. T:24. 084, 085, 129.
22. The dodger windows are heavily crazed, impeding visibility, particularly at night. B. T:16. 087.
23. The turning block pivot pin and axle are heavily rusted. B. T:2. 089.
24. Paint is failing on coffee grinder winch base. C. T:24. 090-093.
25. The tender fuel filter is not UV resistant, mild steel spring clamps are being used than stainless steel hose clamps. A. ABYC H-25. T:1. 100.
26. The cockpit shower plumbing utilizes copper alloy. Copper alloys are galvanically incompatible with aluminum. Use of copper alloys should, therefore, be avoided wherever other suitable alternatives exist, throughout the vessel. C. T:4. 101, 536.

27. The aft cockpit access port is seized; the manual steering tiller could not be tested. Recommend the threaded inspection port be replaced with a bayonet T-handle variety. B. T:2. 104.
28. The stern light base is dislodged. B. T:2. 116.
29. Air bubbles are present in both compasses. C. 118-121.
30. The vessel lacks a means of reboarding from the water by a person in the water. The swim ladder cannot be deployed from the water. A. ABYC H-41. 124.
31. Aluminum is corroding around wire used for hanging anode. Recommend this be replaced with a stainless steel ring terminal, and corrosion inhibited. C. T:1. 125.
32. Stbd sail track fasteners are missing. B. 130-132.
33. Snap shackles are staining. This is indicative of crevice corrosion. These should be cleaned and carefully inspected, or replaced. B. T:2. 117.
34. The use of non-plated bronze rigging hardware should be avoided. C. 139.
35. The cockpit winch tube is bronze. This should be encapsulated/isolated from the surrounding aluminum structure. C. T:4. 545.
36. The vessel lacks smoke and CO detectors. For more on selecting and installing these devices see <http://stevedmarineconsulting.com/carbon-monoxide-poisoning/> and <http://stevedmarineconsulting.com/special-edition-smoke-detectors/> A.
37. Shore power cable connections, missing locking ring, corroded. A. ABYC E-11. T:1. 146.
38. The port fwd cockpit winch electrical connections lack insulation. A. ABYC E-11. T:4. 540, 542, 543.
39. The cockpit VHF cable is undersized for a run to the masthead. B. T:8. 160.
40. Recommend that the existing galvanic isolator be replaced with a higher quality model, or with an isolation transformer. C. ABYC A-28. T:1-8. 546.

41. There are exposed, corroded wiring terminals in the fwd bilge. A. ABYC E-11. T:1. 248, 556.
42. Welding cable has been used for DC power distribution. This lacks the necessary corrosion resistance and jacket robustness for marine use. Recommend this be replaced with UL Marine Grade "Boat Cable". A. T:40. 356, 358.
43. A series of ring terminals are connected to a hull stiffener under the stbd saloon settee. The aluminum is corroding. All connections between grounds and the DC electrical system should be made in one location; the cable used to make this connection should be large enough to carry the highest possible fault current. No more than four ring terminals may be installed per stud or fastener. B. T:16. 359.
44. The corrosion potential meter is not operational, it should be repaired. C. T:4. 363.
45. Bus bars, fuses, inverter and other electrical connections under the nav station are exposed. The wiring in this area is sloppy; it should be gutted and reinstalled in a neat, ABYC compliant manner. A. ABYC E-11. T:24. 375, 563, 571, 574, 575, 578, 579.
46. There are abandoned corroded cables under the nav station. C. 369.
47. Fuses under the nav station lack an enclosure, they are ANL style, which lacks sufficient interrupt capacity for use with large battery banks like the one found aboard this vessel. Fuse holders are homemade, components are glued in place; these should be replaced with purpose made class T fuse holders. Fuses are unlabeled. All fuses, circuit breakers and switches aboard should be clearly labeled. A. ABYC E-11. T: 8. 564, 572.
48. The inverter cover is dislodged and rusting. The inverter is not equipped with a class T fuse. A. T:2. 567, 568.
49. The AC electrical panel lacks a main circuit breaker, and lacks OCP at the shore power inlet. A. ABYC E-11. T:8. 370.
50. Battery terminals are corroded. C. T:4. 379-383.
51. Saloon bilge pump wiring is too low and/or not waterproof. A. T:2. 387, 582.
52. Flooded batteries are housed in aluminum boxes, without the benefit of ventilation to allow hydrogen gas to escape from the highest portion of the box, presenting an explosion hazard. Aluminum is susceptible to

- corrosion from battery acid. Flooded batteries should reside in a non-metallic enclosure; the compartment should be properly ventilated. A. ABYC E-10. T:16. 377, 378.
53. Windlass wiring terminals and motor housing are corroded, the former lack insulation. One terminal appears to have been jury rigged with an inner tube-like insulator. A. ABYC E-11. T:8. 393, 394.
54. There is exposed, corroded and overheated wiring in the fwd sail locker. The wiring in this space should be gutted and replaced in an ABYC compliant fashion. A. ABYC E-11. T:16. 399, 401, 584.
55. The anchor rode bucket pump wiring is exposed and corroded. C. T:1. 401.
56. Engine room, numerous examples, exposed DC connections, unsecured wires and switches. A. ABYC E-11. T:40. 422, 424, 428, 429, 452.
57. Engine room, back of battery switch is exposed. A. ABYC E-11. T: 1. 624.
58. There is an unlabeled circuit breaker in the engine room, it is secured with wire ties and the connections are wrapped in electrical tape. A. T:2. 426.
59. There are loose, unused, uninsulated wires behind the DC electrical panel. These should be removed or insulated and labeled. A. T:1. 627.
60. There is a positive bus bar in the DC electrical panel locker. Wires attached to this bus bar lack over-current protection within 7". A. ABYC E-11. 630.
61. The shore power system was not plugged in (it is not safe to do so), and was therefore not tested. A.
62. The AC electrical system lacks a reverse polarity indicator. A. ABYC E-11.
63. It is unclear if an isolated starting battery exists. If not, one should be established, with provisions for paralleling with the house battery bank. B. T:8.
64. The back of the engine instrumentation, wiring and connections are corded, and exposed. B. T:6. 503, 504.
65. The shaft bearing is worn. C. T:4. 215.

66. The engine exhaust riser lacks adequate insulation, the exterior of the insulation exceeded 500F (the threshold for ABYC compliance is 200F). The riser is also poorly supported; it moves too much and is attached to the overhead with twine. Recommend this assembly be reworked or replaced, ensuring it is in full compliance with ABYC and engine manufacturer installation guidelines. B. ABYC P-1. T:8. 552, 553, 438, 441, 479, video Exhaust Support
67. The stuffing box vent has been disconnected. The port has been plugged with a bronze plug, which is galvanically incompatible with the carbon graphite stator. Recommend this stuffing box be replaced, ensuring installation complies with manufacturer instructions. The stuffing box bellows is chafing on a stringer.
http://www.shaftseal.com/en/about/installation_instructions B. T:4. 492, 493, 496, 554.
68. Exhaust hose in lazarette appears old, original perhaps, it lacks an exhaust rating, it should be replaced. Clamps are rusting. B. ABYC P-1. T:6. 418.
69. Exhaust hose in engine room is cracked, it should be replaced with SAE J2006R rated hose. B. T:4. 434, 435.
70. Non-rated hose has been used for the exhaust connection at the muffler. B. ABYC P-1. T:2. 437.
71. Main engine air filter screen is impacted with dirt. C. T:1. 460.
72. The main engine belt is loose. C. 636.
73. Motor mounts are rusting; they should be cleaned and painted (if doing it yourself) or replaced. C. T:8. 637.
74. The throttle cable end is taped at the engine. B. T:2. 472.
75. The emergency engine stop cable is secured with seizing wire, it is chafing against the remote oil cooler hose. B. T:2. 473, 474.
76. The shift cable connection to the transmission lever should be disassembled, cleaned and inspected, the cotter pin should be renewed, it should be lubricated and reassembled. B. T:1. 475.
77. AquaDrive bolts are rusting. Coupling bolts are stainless steel, these should be grade 8 mild steel and corrosion inhibited. B. T:4. 641, 642.
78. Shift throttle control knob missing. C. 645.

79. Access to thrust bearing for inspection and grease application limited. C. T:4. 656.
80. The engine lacks start in neutral safety prevention. B. T:2.
81. Backside of engine shift control is rusting. B. T:1. 508.
82. The water heater mounted above the engine is plumbed into the engine coolant circuit; however, there appears to be no remote expansion tank, as is required by the engine manufacturer for cases such as this. There is a remote expansion tank for the heating system, however, it's unclear if the two are paralleled. Determine plumbing arrangement, create schematic. C. 512.
83. The transmission fluid appeared very dark, it should be flushed and replaced. C. T:2. 514.
84. During the sea trial the maximum engine air intake temperature reached 98F. The ambient was a high of 64F, making for a delta t of 34F. This exceeds the recommended standard by 4F. Recommend this test be repeated after the exhaust riser issues are corrected. If the temperature remains high supplemental forced ventilation may be necessary. C.
85. There are indentations in the hull bottom, on the port side below the boarding gate. There are indentations in the hull forward of the engine. These should be inspected by an experienced aluminum hull technician to determine if there has been a breach in integrity. B. 197-201; 202-209, 220-223, 227.
86. Access to the bilges is hindered by sole, which in many places is not easily removable. Recommend that hatches be secured with latches rather than screws, facilitating quick and easy removal. All sole sections should be removable. B. T:60.
87. The hull deadlights are frequently submerged. These are crazed and should be replaced. B. T:24. 254.
88. There is standing water in the bilge adjacent to the rudder stock. The source of the water should be identified and stemmed. B. 592.
89. A loose, bare copper wire was found in the bilge adjacent to the stuffing box. C. T494.

90. There appear to be weld repairs on the hull in the engine room. The reason is unknown. C. 522.
91. The “seacock” located in the fwd head is PVC, it lacks ABYC and UL compliance for use as a sea valve, it should be replaced with compliant, preferably reinforced non-metallic valve. B. T:2. 244.
92. Raw water hose used for the fwd head is not rated for raw water use. For more on hose selection see <http://www.passagemaker.com/channels/hose-selection-choosing-wisely-pays-dividends/> Replace with SAE J2006 rated hose. B. T:2. 245.
93. Seacock installed in the fwd bilge is mated to non-compatible, rigid, industrial plumbing. B. T:8. 557, 558.
94. Saloon bilge pump plumbing is sloppy and restrictive. It should be replaced, ensuring no check valves or reducers are used, each pump should have its own discharge, using risers and anti-siphon valves to prevent siphoning and down flooding. For more on bilge pump systems see <http://www.cruisingworld.com/how/wire-and-plumb-your-bilge-pump-properly> . B. T:16. 388.
95. Sail locker sanitation and other plumbing corroded hose clamps, and PVC hose; there appears to be leakage on top of the tank. PVC hose is prone to odor permeation, and should be replaced with EPDM hose. C. T:16. 398, 403, 404, 408, 585, 586, 587, 589.
96. The water heater tank is aluminum; copper fittings have been used for water connections. These should be replaced with stainless steel. C. T:1. 425.
97. Unlabeled valves, aft engine room, these are PVC and are in poor condition. B. T:8. 443.
98. There is a connection between raw and potable water, which relies on a swing check valve for isolation. This arrangement runs the risk of contamination of the potable water system with seawater; a positive closing valve should be installed between the two and a backflow preventer rather than a check valve. C. T:2. 454.
99. PVC plumbing has been used for raw water, fwd engine room. Common PVC lacks the tensile strength and modulus of elasticity for use with raw water. If used, it should be above the waterline, schedule 80 and well-secured. B. T:12. 456, 459

100. Aft engine room unlabeled valve. C. 458.
101. Port aft engine room, pipe welded to hull, no valve and no support or gusseting. B. T:8. 633.
102. Engine raw water strainer components, all plastic, poorly supported. B. T:8. 462.
103. There is an unlabeled valve in the fwd engine room. All valves aboard should be clearly and permanently labeled. C. 468.
104. Port aft engine room, raw water hose is cracked. B. T:2. 476.
105. The liferaft canister has been sealed with common duct tape. It was reported that the vessel's owner repacked it himself. Recommend the raft be professionally inspected and repacked. A. 102, 103.
106. The SSB antenna tuner connections lack an insulating boot. C. T:1. 530-532.
107. Plumbing used for the steering system is copper, which is galvanically incompatible with aluminum. Recommend that the plumbing be replaced with stainless steel, or hose. C. T:16. 151
108. The steering chains and sprockets lack lubrication. C. T:1. 538.
109. Steering chains are exposed in lockers where gear is stored, they could become entangled and impede steering. Recommend guards be fabricated to cover moving parts. B. T:8. 538.
110. Bronze plumbing components have been used at the steering ram that lack the necessary pressure rating for use in this system. The relief pressure of the system is 1000 psi, while cast bronze T and 90° fittings are rated for no more than 600 psi. Recommend these be replaced with stainless steel fittings rated for 1000 psi. B. T:4. 555.
111. There is a fuel odor in the cabin, and fuel residue in the bilges. Investigate and determine the source of the leak. A. 246, 247, 251.
112. The mast foot does not appear to be pinned to the step. Fasteners used to secure the step to the hull are improperly sized. B. T:2. 249.
113. The EPIRB is not registered to the current vessel owner, and it is past due for service. A. 256-260.

114. The galley stove is not locked in place. B. T:1. 261, 263.
115. The galley stove LP supply utilizes copper tubing. The tubing is not immobilized where it interfaces with flexible hose that leads to the stove. The copper tubing is galvanically incompatible with vessel's aluminum hull. Recommend it be replaced with rated LP hose, in compliance with ABYC standards. A. ABYC A-1. T:12. 265.
116. Recommend that fuel and water tanks be opened and inspected, cleaned if necessary. B. T:16. 350.
117. The refrigeration system heat exchanger is plumbed into the fresh water tank. The heat exchanger is sintered bronze, which is galvanically incompatible with the tank's and hull's aluminum plate. This should be removed and the inside of the tank inspected for corrosion. The heat exchanger should be installed on the exterior of, and isolated from, the hull using a non-conductive material such as G10. B. T:4. 373, 376.
118. The chain road bucket is served by a pump. Confirm this pump is operational by pouring fresh water into the chain bucket. C. T:1. 400, 413.
119. The autopilot assembly is rusting. Clean, paint, corrosion inhibit. C. T:8. 415.
120. The steering ram and associated components are made from copper alloy. They should be isolated from the vessel's aluminum structure, including an FRP drip pan under the ram to prevent salts of copper from running off and into the bilge. C. T:8. 412, 595, 596, 597.
121. The steering ram appears to be leaking. B. T:4. 614, 615.
122. The steering fluid reservoir is low, the fluid, or inside of the reservoir, is dirty. Fluid should be replaced, reservoir cleaned. C. T:6. 613.
123. The LP gas locker door is vertical, making it non-compliant with ABYC standards. The BBQ hose is plumbed in such a way that LP gas can flow when the hose is not connected to the BBQ. A bayonet style hose should be used to prevent gas from flowing unless the hose is connected to a BBQ. A. ABYC A-1. 620, 621.
124. The primary fuel filter is not rated for marine engine room use; it lacks a heat shield and metallic drain plug or valve. For more on fuel filters see <http://www.passagemaker.com/channels/primary-fuel-filters/> A. ABYC H-33. T:2. 450.

125. A plastic component (it appears to be an inline filter) has been used in the fuel supply in the engine room for the heating system. Plastic parts such as these fail to meet the ABYC requirement for resistance to flame. A. ABYC H-33. T:2. 449, 664.
126. An outboard primer bulb has been plumbed to the primary fuel filter. This component lacks the necessary flame resistance for use in an inboard fuel system. It should be removed. Compliant priming pumps are available at <http://reversopumps.com/fuel-primers/hand-priming-pump> . A. ABYC H-33. T:4. 451.
127. Copper alloy plumbing fittings are used in direct connection with the aluminum fuel tank plumbing. The two are galvanically incompatible. C. ABYC H-33. T:8. 453, 455.
128. The main engine primary fuel filter has been vented with can only be described as a Rube Goldberg-esque plumbing arrangement. The filter should not require a fixed venting system. The source of air ingress should be identified and corrected. Plumbing used for the vent lacks flame resistance and ABYC compliance. B. T:2. 463, 638, 639.
129. The engine room is equipped with a CO2 fixed fire extinguishing system. This gear is antiquated, and the CO2 poisonous, it is rarely found aboard yachts of this size. It does not appear to have been inspected or weighed recently. Recommend this be replaced with a non-toxic FM200 system that's linked to the engine and ventilation system for automatic shutdown. For more on fixed firefighting systems see <http://stevedmarineconsulting.com/fixed-fire-suppression-systems/> . A. ABYC A-4. T:16. 464-467.
130. Access to the back of the washer dryer is poor. The vent hose is crushed. Recommend the vent hose be removed, repaired and cleaned. B. T:2. 4652.
131. Fuel deck fill hoses are not readily accessible for inspection and replacement, they have been concealed behind cabin joinerwork. B.
132. The location of the fuel tank vents is uncertain, however, it does not appear to be above the fill. This is a violation of ABYC standards, and increases the likelihood of a spill. B.
133. The stove could not be ignited. Confirm that it is operational and that the flame failure device works. A. ABYC A-3.
134. The clothes dryer is LP gas. It is not designed for marine use, or operation in other than level conditions. It is unclear if it has a flame

- failure device. The LP connection at the dryer is corroded. The gas supply for the dryer appears to be T'd into the LP line outside the LP locker. All LP connections, T's etc should be made within the LP locker. A. ABYC A-1. 654.
135. The fuel system lacks a vacuum gauge, to determine filter condition, and water in fuel sensor. B. T:8.
136. Copper LP gas tubes passing through helm instrument locker lack insulation to prevent short circuit, and are pink/corroded. Copper tubing should be replaced with hose. A. 505.

Addendum

- Smoke detectors should be installed in all accommodation spaces as well as in the engine room, lazarette and other engineering compartments (wireless units in which all sound in the event any one detects smoke are recommended). These units, available inexpensively at home improvement stores, will cause all units in the system to sound in the event smoke is detected in any one location. (NFPA 12.3 recommends a smoke detector be installed on all vessels over 26'). Smoke detectors should be replaced every 5 years or in accordance with manufacturer's guidelines. Smoke detector batteries should be replaced every 6 months or in accordance with the manufacturer's recommendations. Portable fire extinguishers should be installed in every cabin and accommodation space as well as adjacent to the galley. A fixed fire extinguishing system that includes a manual discharge and automatic equipment shut down should be installed in the engine compartment. These additions are highly recommended. For more information on smoke detectors see Steve's blog at <http://stevedmarineconsulting.com/special-edition-smoke-detectors/> and <http://stevedmarineconsulting.com/onboard-alarms-part-ii/>
- Every vessel with a cabin or enclosed space should be equipped with CO detectors in each stateroom as well as locations where occupants may sleep, even occasionally (saloon, pilothouse etc). CO detectors should be permanently wired to the vessel's DC power supply *without* switches or circuit breakers that can be easily or inadvertently turned off. CO detectors have a finite life, typically no more than 5 years. If you are unsure of the age of a CO detector, it should be replaced. For more information on CO detectors see Steve's blog at <http://stevedmarineconsulting.com/carbon-monoxide-poisoning/> A
- If not already installed, an exhaust system temperature alarm should be installed on propulsion engines and generators. These will often alert the

operator to a cooling water supply problem long before the event becomes critical. For more on this and other alarms see Steve's blog at <http://stevedmarineconsulting.com/onboard-alarms-part-i/> B.

- If not already installed, a bilge high water alarm should be installed. The float switch for a high water alarm should be located no more than three inches above the existing bilge pump float switch. In general, vessels should be equipped with a *minimum* of 100 gallons per foot of boat length, effective, per hour of bilge pump capacity. Twice that capacity is desirable. For more information on bilge pump installations see <http://stevedmarineconsulting.com/onboard-alarms-part-ii/> B
- Every vessel should be equipped with GFCI receptacles located in the galley, heads, machinery spaces and on deck in order to comply with ABYC guidelines. All receptacles would benefit from this protection. Additionally, whole boat GFCI protection is also desirable and recommended in the form of a residual current device or RCD. While these do not technically offer protection for personnel, they are designated as equipment protection, they do never the less enhance safety and reduce the likelihood of dangerous electrical faults and potential electrocution scenarios. For more information on GFCI receptacles see Steve's blog at <http://stevedmarineconsulting.com/electrocution-prevention-2/> and <http://stevedmarineconsulting.com/safe-shore-power-and-electrocution-prevention-2/> A
- If the vessel's water heater is plumbed to the engine, the water heater should be equipped with a tempering valve. This will reduce the temperature of the water leaving the water heater, particularly when it's being heated by the engine, conceivably to the same temperature as the engine's coolant, or nearly 200°F. In addition to the tempering valve, if the engine is used for producing hot water anti-scald faucets should be installed in the galley and heads. For more information on tempering valves and water heater installations see <http://stevedmarineconsulting.com/water-heater-primer/> A
- Every vessel should be equipped with a permanently installed rigid or flexible fitting or part of the hull which allows a person to reboard from the water without assistance. A.

This report is prepared for the Client as of the date of the report. Any further disclosure or dissemination of this report is not a representation, guarantee or warranty about the vessel or this report by the author. Others to whom this report is provided under the terms of the inspection

agreement are advised to conduct their own examination of the vessel that is the subject of this report.

Follow up compliance inspections are the only way to definitively ensure that the above-noted observations have been properly addressed. For more information on compliance inspections please contact SDMC.

Reasonable care has been taken in conducting a visual inspection of the accessible areas of this vessel. All details and particulars in this report are believed to be true; however, they are not guaranteed to be accurate. All judgments, conclusions and recommendations are purely expressions of opinion, based on my skill, training and experience after a reasonable examination of the vessel's systems and after discussions with owners/brokers/crew/builder or others who could provide useful information.

LIMITATION OF LIABILITY

SDMC HAS ENDEAVORED TO CONDUCT AS THOROUGH AN INSPECTION OF THE VESSEL AS POSSIBLE, AND THE FINDINGS, OPINIONS AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON THE INFORMATION OBTAINED DURING THE COURSE OF THE INSPECTION. SDMC'S FINDINGS AND OPINIONS WITH RESPECT TO THE VESSEL ARE NOT INTENDED TO BE NOR SHOULD THEY BE CONSTRUED AS A GUARANTEE OR WARRANTY, EXPRESS OR IMPLIED, REGARDING THE CONDITION OF THE VESSEL.

SDMC ASSUMES NO RESPONSIBILITY FOR THE COST OF REPAIRING OR REPLACING ANY DEFECT IN THE CONDITION OF THE VESSEL.

SDMC SHALL HAVE NO LIABILITY FOR CONSEQUENTIAL DAMAGES, PROPERTY DAMAGES, BODILY OR PERSONAL INJURY DAMAGES, OR PUNITIVE DAMAGES SUSTAINED BY THE CLIENT ARISING FROM SDMC'S INSPECTION OF THE VESSEL AND THE FINDINGS, OPINIONS AND RECOMMENDATIONS CONTAINED IN THIS REPORT. IN THE EVENT SDMC IS FOUND LIABLE TO CLIENT FOR ANY SUCH DAMAGES, CLIENT'S DAMAGES SHALL BE LIMITED TO THE FEE SET FORTH IN THE PRE-PURCHASE INSPECTION RETAINER AGREEMENT IN PARAGRAPHS 2.1 AND 2.2 OF SAID AGREEMENT, LESS EXPENSES, PAID BY THE CLIENT.

DEFENSE AND INDEMNIFICATION

In the event SDMC is found liable to a third party or third parties for damages arising from SDMC's inspection of the Vessel and the findings, opinions and recommendations contained in this Report, Client agrees to defend, indemnify and hold harmless SDMC for such damages, including but not limited to

reasonable attorney's fees, whether arising under theories of negligence, contract, or any other legal theories.

CONFIDENTIALITY

This Report is considered "Confidential Information" as that term is defined by the Confidentiality Agreement dated **February 24-25, 2019**, and is subject to the terms of said Agreement.

CLIENT'S ACCEPTANCE OF REPORT and RESPONSIBILITIES

Client's acceptance and use of this Report is subject to the terms of this Report, the Consulting Agreement and Confidentiality Agreement.

By Client's acceptance of this Report, Client acknowledges that many conditions, defects, hazards or problems may affect the safety, seaworthiness, safe operation, reliability, operability, and value of the Vessel, and Client further acknowledges that it is the sole responsibility of the Master of any vessel to determine the seaworthiness and suitability of the vessel for any intended voyage.

Client acknowledges that SDMC retains full rights to photos taken during, or provided to the client in the course of fulfilling the terms of this agreement. The client may not publish, copy or otherwise distribute photos provided by SDMC without prior written consent (the client may provide photos to the boat builder or broker with an accompanying inspection report).

It is the sole responsibility of the Client (1) to make inquiries and request full disclosure from the seller(s), broker(s) and other interested party(ies) of any such conditions, defects, hazards or problems, whether discovered during SDMC's inspection and set forth in this Report or not; (2) to obtain and review any previous surveys and repair records and to make inquiries of any individuals with firsthand knowledge of the Vessel, particularly those individuals with experience operating and/or repairing the Vessel; (3) to conduct a "walk through" inspection, inventory verification and operational testing/sea trial/full power run of the vessel and all equipment immediately prior to Client's conclusion of the purchase of the Vessel; and (4) to contact the manufacturer of the Vessel to register ownership and to obtain up to date information concerning the boat/equipment and possible recall campaigns or other service/maintenance advisories.

NO PORTION OF THIS REPORT IS OFFERED AS A WARRANTY, EXPRESS OR IMPLIED, OF THE CONDITION, LIFE EXPECTANCY, SEAWORTHINESS OR VALUE OF THE VESSEL.

_____(E Mailed) _____
Steve D'Antonio, President,
D'Antonio Marine Consulting, Inc. (SDMC)

Feb 28, 2019
Date

Copyright © 2020 Steve D'Antonio and Steve D'Antonio Marine Consulting, Inc. Do not copy, e mail, forward, scan or otherwise duplicate or distribute without the express written permission of Steve D'Antonio Marine Consulting, Inc. www.stevedmarineconsulting.com, info@stedmarineconsulting.com, 804-776-0981

Revision date: January 18, 2019