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Marine Survey Report

Report Number : 2010S/1882
 Date of Inspection : January 01, 2011
 Commissioned by : XXXXXX XXXXXX
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 XXX XXX
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 Phone : 416-XXX-XXXX



SCOPE OF SURVEY

The purpose of this inspection and survey report is to determine, insofar as possible within the limitations of visual and physical accessibility, through non-invasive and non-destructive means, the vessel's condition at time of survey by reporting deficiencies against the standards quoted in the "comments" section of this report and to present the surveyors personal opinion as to the vessel's condition. Certain parts of the structure, systems and equipment are inaccessible without removing decks, tanks, bulkheads and headliners etc. or in the case of cored structure, drilling core samples. This would be prohibitively time consuming, potentially destructive, costly to restore and are not within the scope of this survey. Coatings build up, corrosion, marine growth, excessive gear on board or dirt may have hampered the surveyor's ability to inspect. Thick layers of anti-fouling paint may inhibit bottom inspection and therefore destructive testing is offered at additional cost.

Be advised that moisture meter readings and percussive soundings on frozen structure are not reliable and that if a survey must be conducted under these conditions the soundings and meter readings should be re-done at thaw. It should be noted that moisture meter readings are relative and these meters are affected by many factors other than moisture and that percussive sounding interpretations are subjective.

Components requiring access with tools or by disassembly are not inspected. A vessel's systems and component parts have a limited useful life and are subject to deterioration over time. Some conditions affecting useful life include original material specifications, fabrication techniques, environmental exposure and history of use. These systems and component parts often give no readily detectable external indication of deterioration or failure. Cosmetic or comfort issues may be addressed where there is a significant effect on the value of the vessel. Electronic and electrical equipment may be tested by powering up, only when power is already connected. A complete analysis of the vessels electrical systems would require the services of a qualified marine electrician. Only the external visual condition of wiring, connections and panels is reported. The surveyor recommends that a qualified marine mechanic inspect all engines, generators, V-drives, transmissions, saildrives and or stern drives. Loose gear and accessories are neither inventoried nor inspected. This survey is an opinion of the surveyor based on his knowledge and experience. Within these parameters the surveyor will report on the hull, deck, vessel systems, running gear, cosmetic condition and provide a valuation based on the foregoing. The surveyor cannot predict how the vessel or its systems will perform over time and therefore this report is valid only at time of survey.

The surveyor has made neither weight calculations nor measurements. All dimensions and weights are from published specifications such as original brochures The PowerBoat Guide, Mauch's Sailboat Guides, manufacturers or owners association web sites. Survey fees are based on such published L.O.A.,

STRUCTURAL COMPONENTS

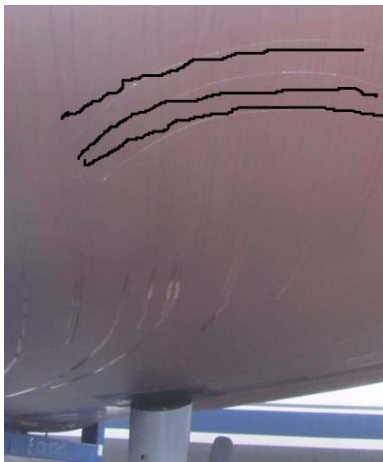
The internal and external structural elements were visually inspected and tested by random percussive sounding where accessible. Random moisture levels where measured were taken with an Electrophysics, capacitance type digital meter calibrated to a dry test panel and set at the 0.5 scale. Relative meter readings are interpreted as follows 10-12 - low, 13-16 - slightly elevated, 17 - 20 elevated, 21 + high.

General : Hull is fabricated from fiber reinforced resin and taken from a two piece female mold. Decks, topsides and superstructure are of FRP cored sandwich construction while the bottom appears uncored. The hull and deck shells are supported by bonded FRP liner sections with integral frames and floors. Main bulkheads are inset in the liners and some partial bulkheads are FRP bonded to the hull.

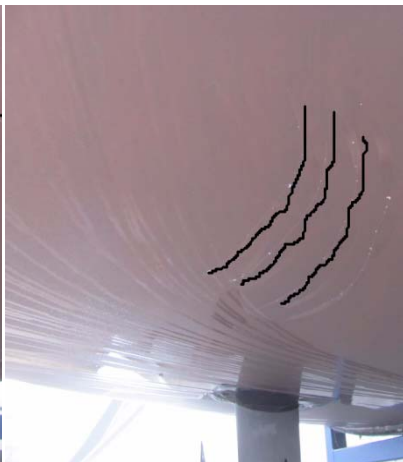
Structural changes : None sighted.

Deck to hull joint : Overlapping flange type joint sealed with a caulking compound and fastened through the toe rail appears secure and shows no sign of movement.

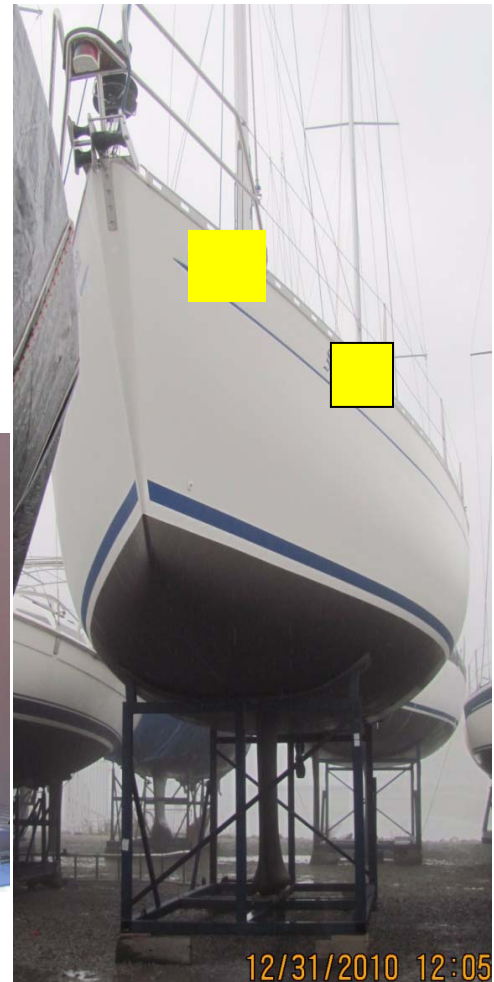
Bottom : The bottom is fair and checks sound. Moisture levels were not measured due to ongoing rainfall. VC17 anti-fouling paint is in good condition. There are multiple elliptical fractures on either side of the sail drive. [See comment \(1\)](#).



Port side fractures 3' outboard of saildrive



Stb. side fractures 2' outboard of saildrive



Topsides : Check sound and appear fair.

Transom : The transom checks sound and appears fair.

Decks / trunk : Moisture levels were not measured due to rain. All surfaces check sound but the decks outboard and aft of the lower forward shroud creak when walked upon. [See comment \(2\)](#).

Bulkheads/frames : Integral to the liner moulding and check sound where accessible with no visible fractures.

- Shroud load points :** Areas of chainplate attachment the stem, transom, forward saloon bulkhead and starboard shroud knee are sound. The port shroud knee is not accessible without removals.
- Mast compression :** A stainless steel compression post is secured on a transverse floor member integral to the liner and all appear sound and secure with no sign of movement.
- Keel to hull joint :** The joint is caulked and appears secure with no sign of gaps.
- Keel / Skeg(s) :** The lead ballast keel shows no evidence of grounding damage. Keel bolts are clean and free of visible corrosion.
- Engine beds :** FRP beds bonded to the hull check sound and appear secure.
- Cockpit :** The cockpit deck checks sound.

DECK / TRUNK EQUIPMENT

Stainless steel bow and stern rails are connected through stainless steel stanchions with double lifelines fitted with port/starboard, stern gates and all appear secure as do bow, midship and stern mooring cleats, Aluminum extruded toe rails are fair and secure. On the trunk are four ports, two escape hatches with ventilators, two vent hatches, two deadlights, two vents and teak grab rails all of which appear sound and secure.



COCKPIT EQUIPMENT

A sliding acrylic companionway hatch, Acrylic washboard, locker hatches, stainless steel dodger/bimini frames, steering pedestal and removable pilot seat are sound, secure and in good order as is all teak planking on sole and benches.



STERN EQUIPMENT

The stern is fitted with a reboarding ladder under a secure hatch, shore power inlet, shower bib and two louver vents all of which are secure and in good order.



SPARS / RIGGING

Standing rigging is inspected from deck level only, if the mast is stepped. Periodic inspections of all rigging and connections by a qualified rigger are advised. All chainplates should be removed and inspected for evidence of metal fatigue and/or corrosion if the vessel is more than ten years old. Sails are neither inventoried nor inspected and are accepted to be in a condition of normal wear relative to their age.

Note: The mast was stepped at time of survey and standing rigging inspected from deck level only using 8X32 binoculars.

- Mast(s) :** The anodized aluminum extruded mast with internal track mainsail track and external headsail track is fitted with a double pair of fastened foil spreader bases and appears fair and sound with all fittings secure.
- Boom(s) :** The anodized aluminum extruded boom with internal track appears fair and sound with gooseneck and all fittings secure.
- Headsail pole :** A fixed length pole secured in stanchion chocks is fair and in good order.
- Traveler/tracks :** The mainsail track is securely mounted on the trunk forward of the companionway. Headsail tracks are securely fastened on deck.
- Headsail furler :** The Facnor SD200 furling unit appears to be free moving and in working order
- Winches :** On the cockpit coaming are two Lewmar #40 self tailing winches and on the trunk are two Lewmar #30 self tailers. All are secure and in good working order.
- Standing rigging :** All standing rigging is of stainless steel 1X19 wire. Forestay was covered by furling foils and could not be inspected but is securely attached to an external bow chainplate. Lower forward shrouds are through deck to bulkhead plates. Upper and lower aft shrouds are secured to common plates in turn connected to through deck rods. Back stay is secured to an external transom plate and all are secure and sound. All turnbuckles are of the open body type in good condition and all swage terminals are in good order. Standing rigging is extremely tight and gusts of wind produced a metallic popping sound which appeared to be coming from the rods. [See comment \(2\)](#).
- Running rigging :** Various sheets and lines appear in good condition.
- Blocks/Clutches :** All including ten Spinlock lever type clutches are secure and in good order.

RUNNING GEAR

- Steering :** Gear not accessible for inspection without removals.
- Rudders :** A semi-balanced hung spade checks sound with minimal bushing play.
- Shaft system :** A saildrive unit gland are secure and in good visual condition.
- Propeller :** One 2-blade aluminum unit is secure.
- Thruster :** n/a



AUXILIARY ENGINE

The engine and compartment are exceptionally clean and generally well organized with all systems and fixtures secure.

- Engine mounts :** Conventional steel mounts with flexible bushings forward, bolted to FRP beds. Saddle type mount with flexible bushing aft and all are in good order.
- Engine controls :** Dual function lever to cables is secure and free moving. Engine ignition panel includes a tachometer and warning lights only. No oil pressure or engine temperature gauges are fitted. See comment (3).



- Ventilation :** Satisfactory.
- Drip pans :** Integral to FRP Bed.
- Cooling system:** Heat exchanger with raw water exhaust cooling. No coolant visible in heat exchanger and no expansion reservoir fitted. See comment (4).
- Exhaust system :** Cast manifold to hose type muffler with stainless steel end caps. All double clamped as required and in good visual condition.



No coolant visible in heat exchanger

- | | | | |
|------------------------|------------------------|------------------------|----------------------|
| Engine (s) : | One | Gas/Diesel : | Diesel |
| Manufacturer : | Volvo Penta, MD 2040-D | Type : | Naturally aspirated. |
| Size : | 3 cylinder | H.P : | 29.1kw |
| Serial No. : | XXXXXX | Engine hours : | No meter sighted. |
| Gear Mfg. : | Volvo | Gear Ser. No. : | XXXXXXXXXX |
| Gear Mod. No. : | MS25S | Ratio : | 2.47:1 |

FUEL SYSTEM

- Fuel lines(s) :** Steel and type approved hose double clamped where accessible as required.
- Fuel filters :** Metal cartridge type with glass bowl is secure.
- Tanks :** One polyethylene tank is securely mounted under the starboard aft berth.
- Ventilation :** Fuel tank is vented overboard through vent fitting with flame suppression screen as required.
- Anti-siphon :** No anti-siphon valve appears to be fitted.
- Shut-off valves :** At tank.
- Fuel overflow :** Overflow from filling will run overboard as required.

OTHER FUELS

A galley stove is propane fueled and supplied from two approved type bottles stored under the pilot seat and open to the cockpit.
See comment (5).

GENERATOR

None fitted.

GROUND TACKLE

- Windlass :** Lofrans 12VDC vertical.
- Anchors :** One approximately 35lb. steel fluke type and one aluminum Fortress FX11.
- Rode :** Undetermined lengths of 5/16" chain leader and 9/16' triple strand Nylon. Rode sizes are approximate.



Propane bottle storage open to cockpit.

NAVIGATION EQUIPMENT

- Navigation lights:** All in place as required by Collision Regulations.
- Compass :** Plastimo 6" fluid damped type is clear and responsive to magnetic influence.
- Radar :** n/a
- Radar reflector :** None rigged. See comment (6).
- Chart plotter :** Standard Horizon GP180



GPS : MLR Valsat 2008M2

Loran : n/a

Depth sounder : Raymarine Tridata ST60+ and repeater

Sound signal : No fixed unit. See comment (7).

Knot log : Raymarine Tridata ST60+

Marine radios : Horizon Intrepid DSC VHF and Ram Mic.

Autopilot : Raymarine ST6002

Wind instrument : Windex

Spotlight : n/a



AC ELECTRICAL SYSTEM

Shore power - 120VAC/30amp

NOTE : Shore power was not connected and AC systems not powered up

Ignition Protection : Not required in diesel fuel or engine compartments and no such equipment was sighted in the propane locker.

AC panel : Original equipment type panel with single pole main breaker and accessory breakers in good visual order but without a polarity indicator or volt meter. There is approximately 20' of cable between the shore inlet and the panel. See comment (8)

AC/DC Bond : There is no continuity between AC and DC grounds. See comment (9).

Conductors : Stranded copper conductors where accessible but not all marked as required. See comment (10).

G.F.C.I. : As required.

Other Outlets : All secure but not tested.



AC panel

- Inverter :** None sighted.
- Battery charger :** Truecharge 40amp unit is set for “gel” type batteries and the chassis ground is not connected. See comment (11).
- Isolator :** No galvanic isolator sighted.
- Transformer :** No isolation transformer sighted.



Unconnected chassis ground

DC ELECTRICAL SYSTEM Ships power - 12VDC

NOTE : Batteries were not connected and DC systems not powered up.

Ignition Protection : Not required in diesel fuel or engine compartments and no such equipment found in the propane locker.

DC panel : Original equipment type circuit breaker panel with volt meter and accessory breakers in good visual order.



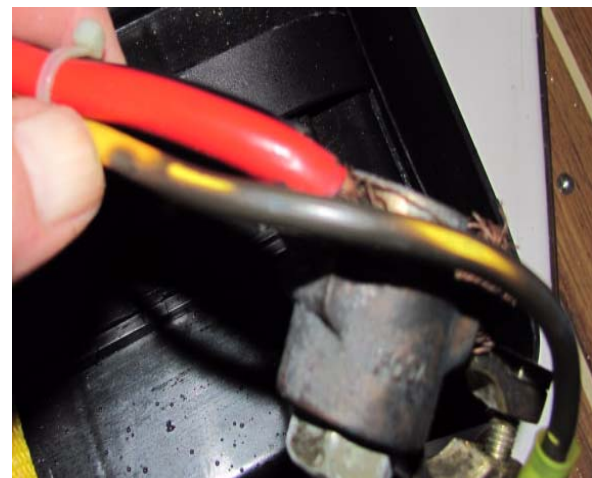
DC panel

Conductors : Stranded copper where accessible. The battery charger conductor at the battery is burnt and yellow. See comment (12).

Alternator : One 12VDC

Battery switch : Two readily accessible 2-way units.

Batteries : One group 24 12VDC wet cell starting battery is adequately secured in a plastic box without positive terminal protection. Two 6VDC gel house batteries are adequately secured in plastic boxes without positive terminal protection. See comment (13).



Burnt charger conductor at starting battery

Isolator : One 2-bank isolator is fitted.

Impressor : No impressed current system sighted.

Anodes : One anode on the sail drive is lightly pitted but serviceable.

SEA CONNECTIONS

There were five below the waterline through hull fittings located on this vessel.

1. Vanity sink drain. Metal lever activated ball valve, double clamped.
2. Head intake. Metal lever activated ball valve, double clamped.
3. Waste discharge. Metal lever activated ball valve, double clamped but open and operable.
4. Galley seawater intake. Metal lever activated ball valve, double clamped.
5. Galley sink drain. Metal lever activated ball valve, double clamped.

See comment (14).

BILGE PUMPS

One electric bilge pump was located on this vessel.

- A. 12VDC bilge pump.

INTERIOR

The interior headliners, sole panels, upholstery and cabinetry are in very clean, sound and secure condition.

Cabin layout :

From the companionway one finds port and starboard entrances to aft cabins, head/shower compartment to port followed by galley with dinette opposite and a conventional V-berth cabin forward.

Air conditioning:

n/a

Heating system:

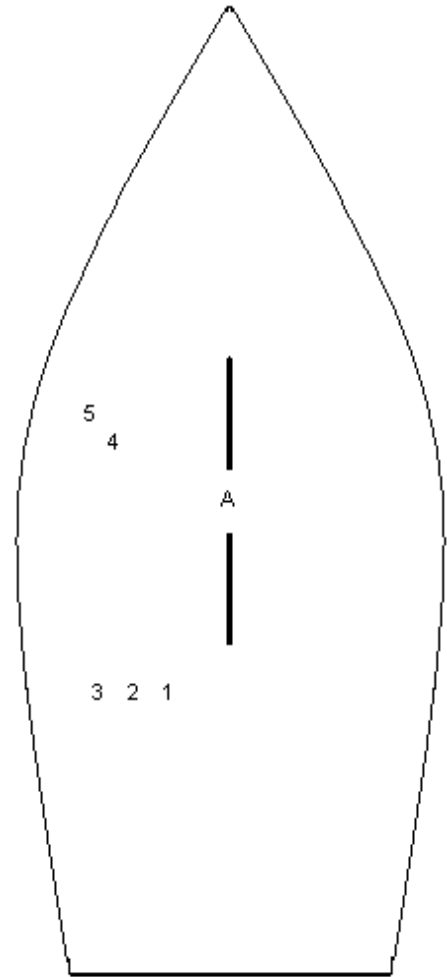
n/a

Vacuum system:

n/a

Entertainment :

CD stereo system with remote control.



GALLEY

All fixtures and fittings are very clean, secure and in good condition.

Refrigeration : 12VDC /120VAC remote compressor, air cooled unit.

Potable water : 12 VDC pressure system with accumulator tank supplied from polyethylene tanks under the V-berth and port side aft berth.

Water heater : 120VAC/heat exchanger unit under the dinette.

Stove : Eno 2- burner propane unit with oven

Other appliances : n/a



SANITATION

Heads : Manual marine head

Shower : Integral to head compartment.

Holding tank : Polyethylene black water tank is connected to a deck pumpout fitting as required. A Y-valve for overboard discharge is open and operable. See comment (14).



SAFETY EQUIPMENT

Safety equipment that is not integral to the vessel or permanently installed has not been inventoried or inspected by the surveyor. The Transport Canada "Safe Boating Guide" should be consulted for requirements specific to this vessel.

Gasoline Fume detector : No gasoline aboard.

Carbon monoxide detector : None sighted. See comment (15).

Propane Fume detector : Yes.

Smoke detector : None sighted. See comment (16).

Fixed fire fighting system : No fixed system in the engine compartment but an alternately required fire port is fitted.

Re-boarding ladder : Yes, at transom

Emergency tiller : Rudder stock access is fitted but no tiller was sighted.

TP1332E COMPLIANCE MARKINGS

Transport Canada requires the following labels or placards be fitted in visible locations. *Safety Notice Compliance, Oil Disposal and Garbage Disposal*. See comment (17).

USCG RECALLS

Note: A search of the "USCG Recall Notice" database revealed no issues with this model.

BoatUS TECHNICAL EXCHANGE NOTICES

Note: A search of the BoatUS "Technical Exchange" database revealed no issues with this model.

BoatUS CONSUMER COMPLAINT DATABASE

Note: A search of the BoatUS "Consumer Protection" database revealed no issues with this model.

COMMENTS

Comments based on a specific authority are cited as such. Other comments are based on the opinion of the surveyor as being of "good marine practice".

A: Issues in need of immediate attention.

5. NFPA-302 and ABYC "Marine Liquefied Petroleum Gas (LPG) Systems" Standard A-1 require that propane fuel bottles be stored securely in a dedicated, top loading locker with gasketed lid and direct overboard drainage with a minimum ½" inside diameter from the bottom of that locker.
11. Transport Canada TP1332E requires that all appliances be installed in accordance with manufacturer's instructions. The battery charger manufacturer requires that this chassis be grounded.
12. The positive conductor from the battery to the charger should be red and requires replacement as it is burnt.

B: Issues that may enhance safety and or value of vessel.

2. The creaking deck and metallic popping sounds from the shroud rods appear to be at least partially caused by extremely tight rigging. Rigging should be loosened when the vessel must be stored in a cradle with the mast stepped.
4. Coolant to be topped up when engine is started and monitored. The addition of an expansion overflow reservoir is advised.
8. Transport Canada "Constructions Standards For Small Vessels", TP1332E requires conformance with ABYC "AC and DC Electrical Systems On Boats" Standard E-11 which in part requires that AC panels be fitted with a double pole main circuit breaker or a single pole breaker and polarity indicator and that circuit protection be fitted at no more than 10' of conductor length from the shore power inlet.
9. Transport Canada "Constructions Standards For Small Vessels", TP1332E and ABYC "AC and DC Electrical Systems On Boats" Standard E-11 which require that AC and DC grounds be bonded with a continuity of less than 1.0 ohm.
13. ABYC "Storage Batteries" Standard E-10 and TP1332E require in part that that positive terminals be protected by dielectric material.

This charger cannot properly charge gel and flooded wet cell batteries at the same time. This practice will lead to a shortened life for the starting battery. All batteries must be of the same type and the charger set accordingly.

14. Canadian Federal, US Federal, Provincial and State regulations prohibit the discharge of black water in the Great Lakes and require that any such discharge mechanisms be "rendered inoperable".
15. ABYC "Carbon Monoxide Detection Systems" Standard A-24 and NFPA 302 require the installation of carbon monoxide detectors. See www.portcreditmarinesurveys.com for information on CO poisoning.
16. NFPA 302 "Fire Protection Standard for Pleasure and Commercial Motor Craft" requires the installation of a smoke detector.

C: Offered for information or suggested as maintenance or upgrades.

1. These bottom fractures are directly under frame members integral to the liner and appear to be superficial in nature. There is no corresponding damage to the frames as viewed from inside the vessel.
3. The addition of engine temperature and oil pressure gauges is advised.
6. Canadian Coast Guard "Collision Regulations" require a vessel of less than 20 meters or constructed of non-metallic materials to be equipped with a passive radar reflector if the vessel will operate in an area where radar navigation is in use, after sundown or in unfavourable environmental conditions.
7. Collision Regulations require this vessel to carry a sound signaling device capable of being heard at a range on one half nautical mile.
10. Transport Canada "Constructions Standards For Small Vessels", TP1332E and ABYC "AC and DC Electrical Systems On Boats" Standard E-11 which in part requires that conductors be of stranded copper and be identified as having a minimum voltage rating of 600volts.
17. TP1332E requires that this vessel be fitted with a *Safety Compliance, Garbage Disposal and Petroleum Discharge label*.

STANDARDS USED

Standards used are the most current editions and may not have been in place when this vessel was built. ABYC standards are voluntary but generally accepted throughout the marine pleasure craft industry and courts as "the" standard. Transport Canada "Construction Standards for Small Vessels, TP1332" are mandatory to the date of manufacture and states "existing pleasure craft shall comply with this standard insofar as it is reasonable and practicable to do so". TP1332 frequently refers to and is in the process of being harmonized with ABYC Standards. Compliance with "Collision Regulations" is mandatory. NFPA 302 is a voluntary standard. Standards quoted may have been paraphrased in the interest of brevity. A 100% accurate survey to the aforementioned standards would require complete disassembly of the vessel and inspection by several specialists and is not within the scope of this report.

Transport Canada Canada Shipping Act, CSA Small Vessel Regulations, TP1332 "Construction Standards for Small Vessels". TP127 "Ships Electrical Systems". TP10739B "International Regulations for Preventing Collisions at Sea, 1972 with Canadian Modifications".

American Boat and Yacht Council "Standards and Technical Information Reports for Small Craft".

National Fire Protection Association NFPA302 "Fire Protection Standard for Pleasure and Commercial Motor Craft".

VALUATION

Valuation is primarily determined through www.soldboats.com but may also be derived from consultation with knowledgeable boat brokers, personal experience, current listings and available pricing sources such as Boat For Sale Value Guide, Computer Boat Value Guide and N.A.D.A. Marine Appraisal Guide or the BUC Value Guide. Boat values vary considerably due to local market demands and significant premiums may be paid for fresh water vessels in exceptional condition. Currency conversion is done on date of survey using www.xe.com Universal Currency Converter. Valuations do not include taxes.

www.yachtworld.com Currently lists XXXXX such models for sale at \$XXXX

Current on-line listings

NADA Appraisal Guide None listed

www.soldboats.com Listed below are the sales data for all such models sold through yachtworld.com in North America since January 2008

XXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXX

"Current fair market value" is the price, in terms of currency or its equivalent that a willing seller will accept for property from a willing buyer, neither part being under undue pressure to act in the matter. The assigned value assumes that components, systems, sails or equipment not inspected during the survey are in serviceable condition commensurate with age.

This valuation opinion is intended for insurance and financing purposes only and is not intended to influence the purchase or purchase price of the subject vessel. The surveyor has no interest in the vessel financial or otherwise. It is the opinion of the surveyor that current fair market value of this vessel is \$XXXXXX

Prepared without prejudice



Captain Wallace Gouk AMS®
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