

SURVEY REPORT

38 ft. AUXILIARY SAILING YACHT

"PATHFINDER"

Prepared for: Mr. David A. Hood, Executor of the Estate of Dr. Jon Cardinal.
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April 2008.

This is to certify that on 22nd April 2008 the undersigned surveyor did attend survey on the auxiliary sailing yacht "PATHFINDER". Said vessel being laid up ashore at the Royal Newfoundland Yacht Club Marina, Conception Bay South, Newfoundland.

Survey requested by Mr. David Hood, Executor of the Estate of Dr. Jon Cardinal, for purpose of vessel insurance renewal.

Vessel condition, general arrangement and equipment are detailed below in appropriate sections of this report.

MAIN PARTICULARS AND DIMENSIONS

Boat:	38ft Loa. Bermudan rigged auxiliary sailing yacht built by C & C Yachts, Ltd, Niagara-on-the-Lake, Ontario, Canada.
Dimensions:	37'7" Loa x 12'0" Bmld x 4'11" Draft
Displacement:	16,700/bs
Year built:	1981
Commissioned:	1981
Hull Material:	Fibreglass, Balsa core to waterline.
Deck:	Fibreglass, Balsa cored.
Auxiliary power:	1 x 30hp, Westerbeke 4 cylinder marine diesel with heat exchange cooling system. "V" drive configuration. Engine Hours: 1957.4.
Fuel capacity:	24 imp. gallons (109 Litres)
Water:	107 imp. gallons approx. (486 Litres)
Hull identification number:	CCZ38206M81C

1. HULL EXTERIOR

Hull is of round bilge construction, Safari yellow topsides with painted blue boot top. Sump stub incorporated in hull moulding for bilge water collection. Ballast keel joint to hull shows slight separation line forward and aft, the keel bolts torque settings should be checked. Exterior topsides of hull are in good condition, no apparent damage though some fading of colour is taking place.

No apparent signs of impact damage or stranding on underwater hull or keel. Fin keel of cast lead with resin sheathing, some sheathing is flaking off on keel bottom. There are no apparent signs of blistering from osmosis on the underwater hull. Random moisture testing on bottom showed no appreciable moisture absorption in laminate.

Rudder, spade type separate from keel, construction of fibreglass, no damage, separation or offset. Bearings are firm and free moving.

Propeller, bronze twin blade fixed, blades are undamaged. Propeller shaft 1 1/8" Stainless Steel (SS) supported by bronze "P" bracket with standard 4 1/2" cutless bearing, bearing firm. Two sacrificial anodes installed 75% remaining.

2. TOPSIDES / DECK / CABIN TRUNK

The cabin trunk, side decks and cockpit tub are balsa-cored fibreglass moulded in one piece. Boat has laid teak deck and teak toe rails, some seams require re-caulking and some fastener plugs need replacement on several deck planks. Some teak planks in cockpit need refitting. Generally the deck requires re-fastening and caulking before too much moisture penetrates the deck. (See recommendations). Deck to hull flange joint secured by SS through bolts, no obvious leaks found. No apparent damage around sheer, port or starboard.

Stainless steel pulpit, pushpit, stanchions and double SS wire lifelines fitted all round deck, all stanchion bases firm. Boarding gates fitted Port & Starboard (P&S), folding SS boarding ladder at transom. SS tube rail guards installed around forward deck ventilators.

Cabin trunk has four watertight opening skylight hatches, one each over forward cabin, galley, head compartment and main saloon, all operable and in good condition. There are no apparent leaks.

Deck equipment:

- Winches, Primary Bariant 2 x #28 Self tailing, black alloy, 2 Speed
- Winches, Gen. Purpose Bariant 2 x #23 Self tailing, black alloy, 2 Speed
- Winch, Halyard Bariant 1 x #18 Standard, black alloy, 2 Speed
- Winches, Halyard Bariant 2 x #18 Standard, chrome bronze, 2 Speed
- Rope clutches fitted for line and halyard control.
- Mainsheet traveller & track on cabin top.
- Electric (12V.DC) anchor windlass.
- Full complement of cleats chocks and mooring bits of cast anodised aluminium fitted.

3. COCKPIT AREA

- Cockpit access to and from main cabin by companionway and sliding hatch offset to starboard.
- Cockpit self draining of standard layout for type of vessel, seating P & S with stowage under, shallow locker to port with control valve for hydraulic autopilot, deep locker to starboard with access to engine compartment and lazarette
- Manually operated diaphragm bilge pump by Henderson installed adjacent to helm. Not operable. (See recommendations)
- Wheel steering pedestal by Edson with 36" diameter SS wheel. Steering by standard chain and SS cable actuating rudder by quadrant. Cables are in good condition some cable misalignment noted (See recommendations) screw type cable tension adjusters provided on quadrant. Rudder stops fitted. Pedestal mounted steering compass by Ritchie.

- Engine throttle and gear shift controls on pedestal. Controls operable.
- One propane cylinder locker aft under helm seat with overboard vent system, locker holds two cylinders. Electric solenoid gas shutoff unit installed at propane locker, manual valve and pressure gauge fitted on operating cylinder. LPG warning notice is in place.
- Instrument array on bulkhead has, boat speed, wind angle, wind speed and depth sounder.
- Full width spray dodger fitted on SS frame, canvas canopy stored off boat during winter.

4. GENERAL ARRANGEMENT BELOW DECK

From forward to aft:

- Forepeak anchor rode stowage closed by solid collision bulkhead, access from deck only.
- Forward cabin contains double "V" berth arrangement, skylight hatch to deck. Stowage under bunk and outboard P & S behind open fiddle front shelves. Auxiliary water tank also under "V" berth. Vanity top locker and drawers to port aft. Cabin lined with teak plank ceiling.
- Hanging locker to starboard side with canvas zip front.
- Main cabin contains two settee / berths. Plastic water tanks and stowage space located under port and starboard settee berths.
- Teak table on centreline with double drop leaves.
- Marine head compartment to starboard, fitted with marine toilet, moulded vanity top with sink unit, stowage under. Hot and cold fresh water supplied by automatic pressure pump. Hand held showerhead, shower drain has grey water sump pump with manual switch. Small opening skylight and ventilator fitted in deck head.
- Galley situated to port aft containing, gimballed three burner SS propane stove and oven by Hillerange. Gas/vapour alarm sensor not found (See recommendations). Laminated counter top, SS twin sink with both pressurised and manual water supply, sea water pump is also provided, stowage area under counter top and top loading insulated refrigerated freezer compartment outboard to port.
- Main cabin interior decor, woodwork, trim and fittings are all of teak and teak faced plywood in good condition. Cabin sole has normal wear. Cushions and upholstery are in fair condition.
- Navigators station situated to starboard aft, provided with chart table, chart stowage and various electronic instruments and navigation aids as described in appropriate sections of this report.
- Pilot berth opposite navigation station extends aft under cockpit area. Batteries and Adler Barbour refrigeration compressor located under berth, batteries in closed plastic boxes secured by straps. Removable panels provide limited access to engine and lazarette. Note: Navigation station and Pilot berth area can be closed off from main saloon by solid teak door.
- Engine compartment situated on centreline under the main companionway to cockpit, access from main cabin by removable panel incorporating main companionway steps. Wiring, plumbing and wet exhaust system are in fair condition. Engine cooled by heat exchanger, cooling water discharged overboard at counter through reinforced rubber exhaust pipe. Stainless steel muffler / anti-siphon lock installed in exhaust system.

6. SEACOCKS

- Cockpit drains, (2) operable.
- Head sink drain, (1) broken handle, not operable. (See recommendations).
- Toilet inlet and discharge, (2) both not operable. (See recommendations).
- Galley sink seawater inlet (1) operable.
- Galley sink drain, (1) operable.
- Engine coolant intake, (1) not operable. (See recommendations).

6. BILGE PUMPING ARRANGEMENTS

- One (1) manual bilge pump, diaphragm type, Mfg: Henderson. Model: Mk 5. in cockpit. (See recommendations).
- One (1) manual bilge pump, diaphragm type, Mfg: Henderson. Unit is portable high capacity model that can be used above or below deck. No hoses found for this pump.
- One (1) electric bilge pump Mfg: Rule Model: 2000 on automatic switch.

7. FUEL SYSTEM

- Diesel fuel tank approx. 24 Imp. gal. (109 Litre) capacity all aluminium construction, installed under cockpit sole and secured by metal straps. Filler cap installed on deck outboard of coamings, the fill hose is badly perished, (See recommendations). Tank vent pipe leads overboard. Tank has shutoff valve and filter system installed. Fuel lines are of metal and reinforced rubber. Primary fuel filter by Racor.

8. MACHINERY

Auxiliary propulsion is by single four-cylinder diesel engine centreline mounted driving a two blade fixed propeller on a SS 1 1/8" shaft via a "V" drive gearbox.

- Engine, Mfg: Westerbeke, Model: 4 cylinder x 30 Hp. Engine is fresh water cooled by heat exchanger unit. Engine hours: 1957.4 on meter.
- Refrigeration compressor, Mfg: Adler-Barbour 12V.DC.

9. ELECTRICAL SYSTEM

Electrical system and wiring appear in good condition. Vessel wired for 12 V.DC and 110 V.AC shore power.

- 12 V.DC electrical systems controlled by 2 x 8 gang breaker panels at navigator station with battery volt/amp gauges.
- 110 V.AC shore power controlled by 1 x 4 gang breaker panel and main breaker switch.
- 12 V.DC battery selector switch at pilot berth adjacent to battery bank.
- Battery charger, C-CHARGER marine unit, alternator on engine used to charge batteries at sea.
- Batteries, 3pcs. 2 x Surrette deep cycle marine, 1 x starter battery, presently stored off boat.
- Cabin lighting by 12 V.DC incandescent lamps. Lights adjacent to navigator station have both standard and red bulbs for night vision. Courtesy lights installed in main saloon at cabin sole.
- Shore power cord 50' approx.
- Hot water heater, Mfg: Racal with dual heating system (110V.AC and re-circulation from engine heat exchanger).
- Electric anchor winch with dual controls.

10. HEATING/COOKING

- Forced air diesel furnace, Mfg: Eberspacher, Model: D4L, thermostat controlled with outlets in cabins and saloon areas.
- Three burner gimbaled propane stove and oven Mfg: Hillerange, Model: #3121, Serial: #18273, stove has locking device to prevent movement at sea. Stove installation in accordance with industry standards for this type appliance. Electric solenoid shutoff switch installed at main switch panel, solenoid installed at cylinder enclosure in cockpit, pressure gauge is installed, LPG warning notices in place at appliance and cylinder locker.

11. SAFETY EQUIPMENT

- Navigation lights as per DOT, Canadian Coast Guard (CCG) requirements.
- Lifejackets, 6 pieces in bag.
- Stearns inflatable PFD, 1 piece.
- Life raft 4 person, packed in valise, not sighted, stored off boat for winter.
- Fire extinguisher, 1 piece "Super 210" dry chem. 2A-10BC UL approved, gauge indicates full charge.

Next service due July 2010.

- Fire extinguisher, 1 piece "Pyrene" dry chem. 3A-10BC ULC approved. gauge indicates full charge.
- Next service due July 2010.
- Flares, hand held, six (6) pieces. Out of date. (See recommendations)
 - Flare gun, Olin 25mm with 12G adapter sleeve. Three (3) 25mm parachute cartridges, out of date.
 - Emergency tiller, 1 piece.
 - Rader reflector.
 - MOB pole with flag, 1 piece.
 - 24" Circular life buoy with line. 1 piece.
 - Life buoy MOB retrieval system, Mfg: Lifesling. Stored off boat for winter.
 - MOB strobe light, Mfg: Guest.
 - Gas vapour sensor, not sighted. (See recommendations).

12. GROUND TACKLE

- Anchor, CQR 35lb with bow roller and 300ft nylon rode.
- Anchor, Bruce 10kg.
- Anchor, Danforth 20H with 150ft nylon rode.
- Windlass, electric, installed on foredeck with single rope drum.

13. ELECTRONICS/NAVIGATIONAL

- Steering compass, binnacle type, Mfg: Ritchie. Compass has variation / deviation card on board.
- Boat speed / Wind / Depth. Mfg: Raymarine, Mod: ST60. (New units with new transducers 2008).
- Chartplotter, Mfg: Raymarine, Mod: C80 with 2Kw 18' Radar and GPS display RS125. (New 2008). Unit is modular and has repeater capacity for boat speed/wind/depth instruments at navigators Station.
- VHF Radio, Mfg: Raymarine, Mod: Ray54.
- Autopilot, Mfg: Benmar, Mod: Course keeper 210. Control panel in cockpit adjacent to helm.
- Brass ships clock and barometer, 3" dials.
- Radio AM/FM/CD with speakers, Mfg: Kenwood.
- Television set, Sony Trinitron 9" screen.
- Monocular Datascope, electronic compass / rangefinder unit, Mfg: KVH.
- Personal hand held Transceivers, two (2) units with charger, Mfg: Motorola, Mod: T5420.

14. SAILS

- Mainsail, Dacron, full batten, 3 reefs, Sobstad 1989.
- Genoa, Dacron, 135% furling, Sobstad 1989.
- Genoa, Dacron, 110% furling.
- Jib, Dacron, 85% furling.
- Gennaker, with snuffer.
- Mainsail cover.
- Mainsail, old original (spare).

Note: Sails not sighted, they are stored off boat for winter.

15. SPARS AND RIGGING

Aluminium keel stepped mast with double spreaders, masthead rigged. Standing rigging is Navtec stainless steel rod. Halyards of SS wire with rope tails.

- Mast and rigging appear in good condition. Main boom of aluminium with SS pin gooseneck and fittings.

- Adjustable alloy whisker pole complete with fittings.
- Adjustable backstay tensioner.
- Harken roller furling with twin groove luff foil.
- Babystay and track fitted for mast bend control.

Note: Terminals and swages were not crack tested during this survey.

16. OTHER EQUIPMENT

- Boathook, aluminium, 1 piece 8'.
- Binoculars 7 x 50, Mfg: Navy.
- Winch handles, 5 pieces.
- Dock lines for mooring, nylon braided rope 200 ft. approx.
- Other: complete complement of all necessary running rigging, sheets, blocks etc. to operate the vessel.
- Rubber dinghy 8' x 4 person capacity.
- 2hp. outboard engine.
- Steel lay-up cradle.

17. STRUCTURAL OBSERVATIONS

- Mast step area, cabin sole lifted around step structure, no distortion or disturbance found in transverse floors, some cracks noted in the filler material under metal mast step, this is most likely from shrinkage of the filler material used.
- Bulkheads, all connections to hull checked where visible, no disturbance found.
- Backstay anchor and steering gear checked, no distortions or disturbance found.
- Chain plates and shroud anchor points P & S checked, no distortion or disturbance observed, no apparent leaks from deck.
- Forestay, anchor point shows no disturbance.
- Deck hull joint, checked where visible, no apparent leaks.

18. RECOMMENDATIONS

1. Place set of flares on board as per CCG requirements. (12 Canadian approved flares of Type A, B, C or D, not more than 6 of which are of Type D.).
2. Check the diaphragm in the manual bilge pump in cockpit. Service kit required.
3. Replace the fuel filler hose from deck fitting to fuel tank.
4. Place a marine gas / fume detector alarm unit on board.
5. Engine cooling water intake seacock, replace the seacock.
6. Head sink drain seacock, replace the seacock.
7. Toilet discharge seacock, service the seacock.
8. Toilet intake seacock, service the seacock.
9. Shim or adjust the steering quadrant to align the steering cables in quadrant grooves.
10. To maintain the appearance and value of this vessel the teak deck seams and loose and missing screw fastener plugs should be professionally repaired.

21. DISCLAIMER

This report is issued without prejudice, and is subject to the condition being ascertained from a survey made with the vessel laid up, and not opening up areas normally concealed by integral parts of the vessel. The surveyor cannot be responsible for errors, omissions or judgemental mistakes. Acceptance and use of this survey constitutes acceptance of this condition.

M.A. Sawyer



Attending Surveyor