

REPORT OF MARINE SURVEY

CONDITION & VALUATION

1989 CARVER 3467 SANTEGO



M/V “ [REDACTED] ”

REPORT OF MARINE SURVEY

OF THE VESSEL

1989 CARVER 3467 SANTEGO

M/V “ [REDACTED] ”

SURVEY CONDUCTED BY:

Cale Mathers - SA
SAMS® Marine Surveyor

PREPARED EXCLUSIVELY FOR:

[REDACTED]
December [REDACTED], 2013

SCOPE OF SURVEY

This survey report is for the benefit of [REDACTED] only and may not be relied upon by any other person without written consent of the surveyor or the above beneficiary.

Acting at the request of [REDACTED], the attending surveyor did attend onboard the 1989 Carver 3467 Santego, M/V "[REDACTED]", on [REDACTED], December [REDACTED], 2013, from 1200 to 1500 for survey inspection while vessel lay afloat at her moorage slip at Marina Mart Marina in Lake Union / Seattle, WA, and while vessel hang in the sling during haul-out inspection at Dunato's Boatyard in Lake Union / Seattle, WA. An out-of-the-water inspection of underwater machinery and the exterior of the hull's wetted surface area was performed. The vessel's engines were started at time of survey inspection. AC & DC power were available and used for testing electronic equipment. Electronic equipment tested during inspection was tested for power up only. The reason for the survey was to ascertain the physical condition and value of the vessel for pre-purchase, insurance, and financing purposes.

- ❖ No reference or information should be construed to indicate evaluation of the internal condition of the engine or the propulsion system's operating capacity.
- ❖ This vessel was surveyed without removal of any parts, including fittings, tacked carpet, screwed or nailed boards, fixed partitions, instruments, personal items, miscellaneous materials in the bilges and lockers, or and other fixed or semi-fixed items.
- ❖ All moisture related values stated in the report were derived using the GE Protimeter Aquant BLD5760 moisture detector. Moisture detector measures conductivity using a value range of 060 - 999. Moisture detector is used to assess & monitor the relative moisture level of non-conductive & porous materials. Conclusions based on moisture readings are not definitive, and confirmation may require destructive testing.
- ❖ Tankage will be inspected from visible surfaces only. No evaluations can be made or opinions rendered as to overall condition of inaccessible areas.
- ❖ Electrical system will be visually inspected where accessible. No in-depth testing or examination of the electrical system schematic will be conducted.
- ❖ Locked compartments or otherwise inaccessible areas would also preclude inspection. Buyer / owner is advised to open up all such areas for further inspection.
- ❖ No determination of stability characteristics has been made, and no opinion is expressed.
- ❖ On sailing vessels, the rig will not be inspected aloft, nor will sails be inspected unless they are visible during a sea trial. Client shall retain the services of a qualified rig surveyor or other expert to inspect such rigging and equipment.
- ❖ A visual cursory inspection of the engine(s), gearbox(es), and generator(s) machinery will be conducted and no opinion of their overall condition will be formed. It is recommended that all engines, gearboxes, and generators be surveyed by a qualified marine engine technician to determine the condition of the engine's gears, pumps, heat exchangers, coolers, etc. This report should not be construed as a full engine mechanical survey inspection.

This survey report represents the condition of the vessel on the above date, and is the unbiased opinion of the undersigned, but it is not to be considered a complete inventory or a warranty, either specified or implied.

CONDUCT OF SURVEY

This survey report represents the condition of the vessel as inspected by the undersigned surveyor on the date of survey. This survey report makes no representation and does not purport to describe any condition that may have changed since the date of the survey, and the recommendations herein are limited to those that in the opinion of this surveyor are reasonably necessary and appropriate based upon the conditions and circumstances, as they existed at the time of the survey.

The services rendered herein and the report rendered herewith are done with the distinct understanding that the undersigned is not responsible or liable under any circumstances whatsoever for any error, omission, negligence, or failure to properly perform the requested services and that all matters and statements contained in this report are of opinion only. They are not to be construed as representations, warranties, or guarantees. No statement made herein, or with services performed hereunder, or work done in connection herewith shall be the basis for any claim, demand, or action against the undersigned. If the work performed is deficient in any material respect, the surveyor shall correct his report or refund the fee paid. In no event shall he be liable for incidental and consequential damages, or damages exceeding the fee actually received for the work.

The market value quoted is the best estimate of the price a willing buyer would pay a willing seller, both parties having reasonable access to the relevant facts, neither party under any compulsion to buy or sell, and under market conditions at the time and place of the survey.

THE MANDATORY STANDARDS PROMULGATED BY THE UNITED STATES COAST GUARD (USCG), UNDER THE AUTHORITY OF TITLE 46 UNITED STATES CONDE (USC); TITLE 33 AND TITLE 46, CODE OF FEDERAL REGULATIONS (CFR), AND THE VOLUNTARY STANDARDS AND RECOMMENDED PRACTICES DEVELOPED BY THE AMERICAN BOAT AND YACHT COUNCIL (ABYC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAVE BEEN USED AS GUIDELINES IN THE CONDUCT OF THIS SURVEY.

- ❖ The American Boat and Yacht Council “Standards and Recommendations,” are defined by reference to “ABYC”. These standards were developed in cooperative effort with the National Marine Manufacturers Association to complement the mandatory standards promulgated by the United States Coast Guard under the authority of the Federal Boat Safety Act of 1971. The ABYC Standards and Recommendations are considered to be voluntary, but are highly suggested by this surveyor.



GENERAL INFORMATION

SURVEY FILE NUMBER:	13167
SURVEY PREPARED FOR:	[REDACTED]
ADDRESS:	[REDACTED]
EMAIL:	[REDACTED]
PHONE:	[REDACTED]
TYPE OF MARINE SURVEY:	Condition & Valuation
DATE OF MARINE SURVEY:	December [REDACTED], 2013
LOCATION OF MARINE SURVEY:	Seattle, WA
VESSEL'S INTENDED SERVICE:	Recreation
WATERS TO BE NAVIGATED:	Underwriters Discretion
HULL IDENTIFICATION NUMBER (HIN):	[REDACTED]
STATE REGISTRATION NUMBER:	WN 7052 MA
MANUFACTURED BY:	Carver Yachts
LOCATION:	Pulaski, WI
MODEL YEAR:	1989
MAKE:	Carver
MODEL:	3467 Santego
HULL MATERIAL:	FRP (Fiber Reinforced Plastic)
HULL TYPE:	Modified-V
DEADRISE AFT:	19°
LOA:	41' 8"
BEAM:	13' 2"
DRAFT:	3' 4"
WEIGHT / DISPLACEMENT (APPROX.):	19,300 lbs.
PROPULSION SYSTEM:	Twin Mercury MerCruiser Inboard Engines
FUEL TYPE:	Gasoline
FUEL CAPACITY:	216 Gals.
FRESH WATER CAPACITY:	90 Gals.
WASTE HOLDING CAPACITY:	37 Gals.
DC POWER:	12V DC
AC POWER:	120V AC / 60 Hz
FAIR MARKET VALUE:	\$ 40,150.00 USD
REPLACEMENT COST:	\$ 375,000.00 USD

DEFINITIONS OF TERMS

Please associate the following terms with the given definition as they appear throughout the following Report of Survey.

APPEARS:

- Indicates that a very close inspection of the particular system, component or item was not possible due to constraints imposed upon the surveyor (e.g. no power available, inability to remove panels, or requirements not to conduct destructive tests).

SERVICEABLE / FUNCTIONAL / SOUND / ADEQUATE:

- Sufficient for a specific requirement.

POWERS UP:

- Power was applied only. This does not refer to the operation of any system or component unless specifically indicated

EXCELLENT CONDITION:

- New or like new.

GOOD CONDITION:

- Nearly new, with only minor cosmetic or structural discrepancies noted.

FAIR CONDITION:

- Denotes that system, component or item is functional as is with minor repairs.

POOR OR WASTED CONDITION:

- Unusable as is. Requires repairs or replacement of system, component or item to be considered functional.



VESSEL SYSTEMS

WETTED SURFACE AREA PHOTOS



Wetted surface photos taken [REDACTED], December [REDACTED], 2013

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HULL STRUCTURES

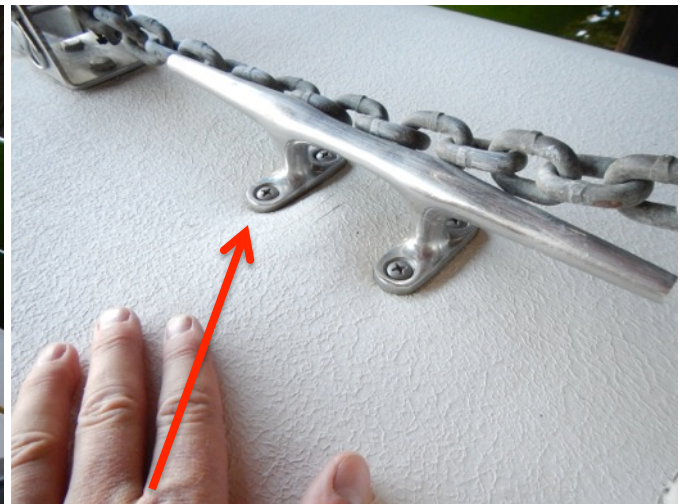
STRUCTURAL SYSTEM	CONDITION
HULL TOPSIDES:	Cosmetically Good / Structurally Sound
HULL-TO-DECK JOINT:	Structurally Sound
WETTED SURFACE AREA:	See Blister Notes Below
BOTTOM PAINT:	Appears Fair / Adequate
DECK STRUCTURE:	Cosmetically Good / Structurally Sound / See Note Below
SUPERSTRUCTURE:	Cosmetically Fair / Structurally Sound
BILGE COMPARTMENTS:	Fair / Adequate
WINDOW FRAMES & SEALS:	Cosmetically Good / Appear Water Tight
STRINGERS & BULKHEADS:	Structurally Sound Where Accessible
CLEATS, STANCHION & RAIL:	Structurally Sound
ESCAPE HATCH:	Functional / Appears Water Tight
CANVAS & ISINGLASS:	Cosmetically Good / Functional
SACRIFICIAL ZINC ANODES:	Good / Adequate

HULL, DECK, SUPERSTRUCTURE & WETTED SURFACE DEFICIENCIES:

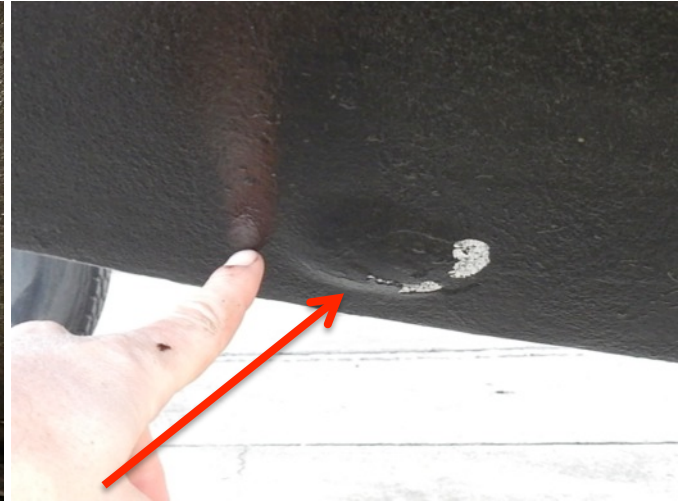
- The vessel's bow pulpit structure was identified as soft / delaminated when inspected at time of survey inspection. Percussion hammer soundings were dull, moisture meter readings were elevated, there is visual indentation where the deck cleat is fastened to the pulpit structure, and the structure is physically soft when pressure is applied with a foot or hand. Vessel's foredeck structure appears in structurally sound condition. Pulpit structure is separate from foredeck structure. Recommend monitor condition of pulpit structure, and service / repair or renew as required.
- There were several deck cleats that were slightly loose when tapped with percussion hammer at time of survey inspection. Recommend service / tighten all vessel's deck cleats as required.
- There are several holes in the vessel's superstructure (appear to be former mounting holes for antenna mounts) that have been filled & sealed. Deficiency described is cosmetic & serviceable. Recommend monitor condition of filled holes in vessel's super structure, and service / repair as desired.
- There were approximately 10 to 20 blisters sighted at the vessel's wetted surface area at time of haul-out inspection. Blisters sighted ranged in size from 1" diameter to 8" in diameter. Blisters were not lanced at time of inspection. Severity of blister penetration is undetermined. Recommend monitor quantity, size, location, and condition of blisters each time vessel is hauled out of the water, and service / repair blisters as required.



Pulpit structure is soft



Indentation at pulpit cleat



Blisters at wetted surface area

PROPULSION SYSTEM



GENERAL DESCRIPTION OF PROPULSION SYSTEM:

- Twin 340 HP, V-8, carbureted, Mercury MerCruiser 7.4L inboard engines w/ V-Drive reduction gears.

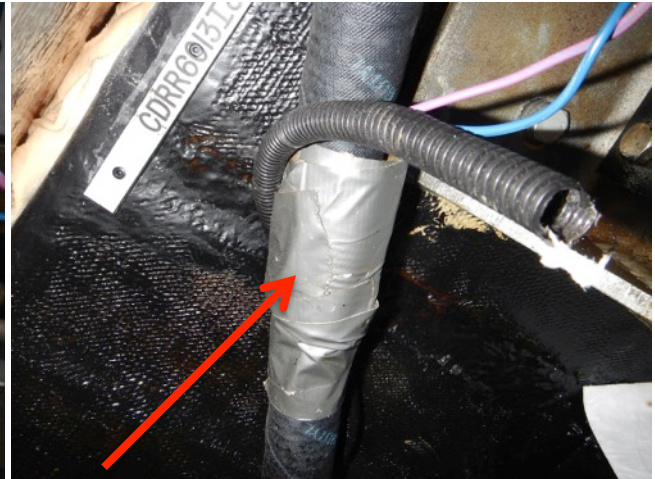
MAIN ENGINE DETAILS	
ENGINE QTY:	2
FUEL TYPE:	Gasoline
ENGINE MAKE:	Mercury MerCruiser
ENGINE MODEL:	MIE 7.4 LITRE OPP
ENGINE SERIAL:	PORT: C396851 STBD: C410313
DISPLACEMENT:	7.4 L / 454 CID
RATED POWER:	340 HP
MAX RPM RANGE:	4000 to 4400 RPM
COOLING SYSTEM:	Fresh Water Cooled
EXHAUST SYSTEM:	Wet Exhaust
SHAFT SEAL TYPE:	PSS (Packless Shaft Seal)

MAIN ENGINE GEAR DETAILS

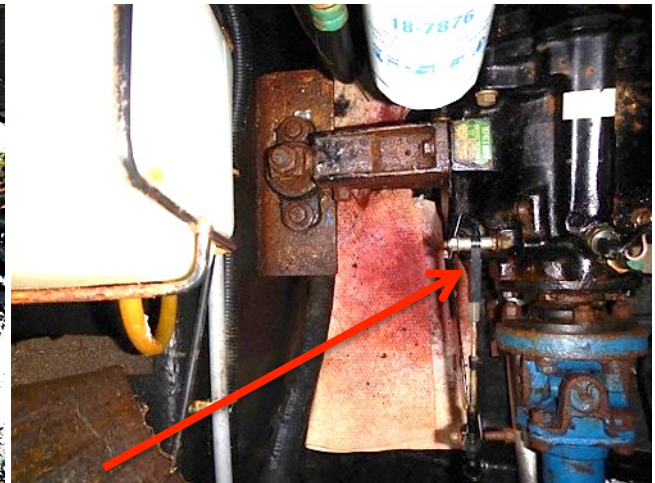
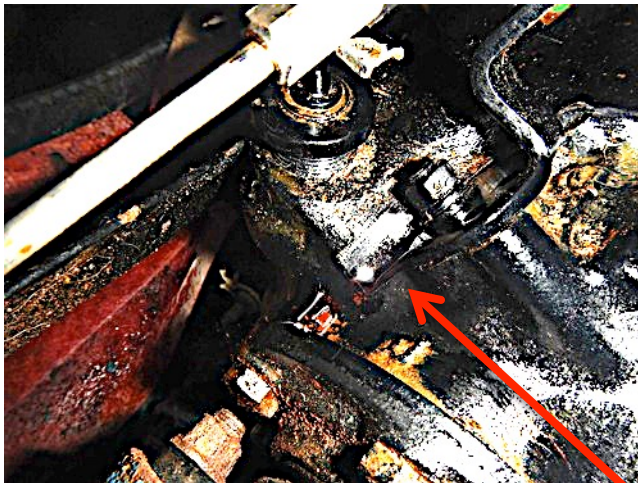
REDUCTION GEAR MAKE:	Velvet Drive / Borg Warner
REDUCTION GEAR MODEL:	10-18-002
REDUCTION GEAR RATIO:	1.0 : 1
V-DRIVE GEAR MAKE:	Walter Gear Drive
V-DRIVE GEAR MODEL:	RV-36
V-DRIVE GEAR RATIO:	2.09 : 1

NOTES / COMMENTS:

- This report does not represent a full mechanical / engine survey inspection. For more detailed information pertaining to the working condition of engine components it is recommended a certified marine technician perform a detailed mechanical inspection.
- The raw water intake hoses to the main engines appear old and in questionable condition. There is duct tape wrapped around one raw water intake hose. The wire reinforcement is poking through on a second raw water intake hose. Recommend monitor condition of vessel's main engine raw water intake hoses, and renew hoses as required.
- There is evidence of an ATF gear fluid sighted at an absorbent pad below the port side engine Velvet Drive / Borg Warner gear. There was a visible gear fluid leak sighted at the Velvet Drive gear select lever of the port engine gear. Recommend service / repair port engine Velvet Drive gear as required.



Main engine raw water intake hoses appear in questionable condition



ATF leak at port engine Velvet Drive gear

MAIN ENGINE PROPULSION CONTROL SYSTEM DETAILS

NUMBER OF STATIONS:	1
SYSTEM TYPE:	Mechanical / Push-Pull Cable
DESCRIPTION:	Four Lever System
CONDITION:	Functional

PROPELLER & SHAFT DETAILS

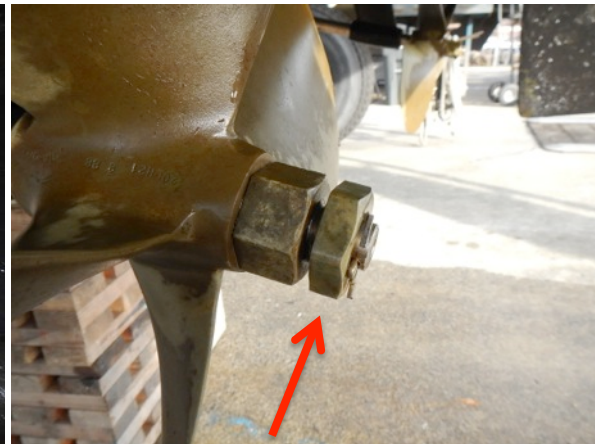
PROP TYPE:	4 Blade Bronze
PROP SIZE(S):	D20" X P21"
PROP ROTATION DIRECTION:	Counter Rotating / Rotation Outboard
PROP CONDITION:	See Note Below
SPARE PROP(S):	Not Sighted
SHAFT SIZE & MATERIAL:	1 3/8" Stainless Steel
CUTLASS BEARING CONDITION:	Appear Adequate / Tight @ Prop Shaft

NOTES / COMMENTS:

- One prop blade at both port & starboard props is slightly bent / out of alignment. Damage described appears minor & serviceable. Recommend service / tune & balance vessel's props at time of vessel's next scheduled haul-out.
- The aft most prop nut at the port side prop shaft is loose. The port side prop nut that secures the prop is tight at the prop hub. Recommend service / adjust / tighten loose prop nut described at time of vessel's next scheduled haul-out.



Prop blade is bent



Prop nut is loose



Port & Starboard Props

FUEL SYSTEM

MAIN ENGINE FUEL SYSTEM DETAILS	
FUEL TANK QTY:	2
FUEL TYPE:	Gasoline
TANK MAKE:	Skyline Tanks, Inc.
DATE OF MFG:	06/1988
TANK MATERIAL:	.125" 5052 Aluminum
TOTAL FUEL CAPACITY:	216 Gals. Total (108 Gals. per Tank)
FUEL SUPPLY LINE TYPE:	USCG Approved Type A1
FUEL FILL HOSE TYPE:	USCG Approved Type A2
FUEL SUPPLY LINE CONDITION:	Appear Adequate Where Sighted
FUEL FILL HOSE CONDITION:	Appear Adequate Where Sighted

STEERING SYSTEM

STEERING SYSTEM COMPONENTS & DETAILS	
NUMBER OF STEERING STATIONS:	1
STEERING SYSTEM TYPE:	Hydraulic
MAKE / MODEL:	Hynautic / Teleflex Marine
STEERING SYSTEM CONDITION:	Functional
RUDDER MATERIAL & CONDITION:	Bronze / Good / Structurally Sound
RUDDER SEAL & CONDITION:	Packing Gland Stuffing Box / Appear Adequate

DC (DIRECT CURRENT) ELECTRICAL SYSTEM

DC ELECTRICAL SYSTEM DETAILS			
SYSTEM VOLTAGE:	12V DC		
BATTERY QTY:	6 Total		
BATTERY TYPE(S):	Flooded Cell Lead Acid		
BATTERY BANK(S):	Start / House		
<u>BATTERY MAKE / DESCRIPTION</u>	<u>QTY</u>	<u>BANK</u>	<u>DATE</u>
6V Dyno (model unknown)	4	House	06/2007
12V Dyno M27m/100Ah (Group 27)	2	Start	Not Sighted

NOTES / COMMENTS:

- The vessel's House Bank DC power system batteries are strapped together in a block. The block of batteries is not secured to the surface they are mounted on. Mounting surface is a plywood bottom that is secured to the vessel's stringers. Batteries are not installed in a battery box.

ABYC Standards recommends: *Each installed battery shall not move more than one inch in any direction when a pulling force of 90 pounds or twice the battery weight, whichever is less, is applied through the center of gravity of the battery (ABYC E-10.7.4).*

Battery mounting materials and surfaces shall withstand electrolyte attack (ABYC E-10.7.1). Provision shall be made to contain incidental leakage and spillage of electrolyte (ABYC E-10.7.2).

Recommend install battery boxes or battery tray, and secure batteries at their mounted location in accordance with ABYC standards stated above.

- The 12V Dyno Start Bank batteries use wing nut fasteners to secure conductors to battery terminals.
ABYC Standards recommends: *Battery cables and other conductors size 6 AWG and larger shall not be connected to the battery with wing nuts (ABYC E-10.8.3).*
Recommend renew wing nut fasteners described with marine grades stainless steel hex nut style fasteners at battery terminals.
- There are two locations in the engine compartment where the ungrounded (positive) conductor to the inverter system is not protected / shielded form accidental termination.
ABYC Standards recommends: *Continuously energized parts, such as positive battery terminals and both ends of all wire connected thereto, shall be physically protected with boots, or other form of protection, that cover all energized surfaces to prevent accidental short circuits (ABYC E-11.5.4.7.5).*
Recommend install protection at all positive conductor ends in accordance with ABYC standards stated above.



House Bank not secured on plywood sole



Wing nut fasteners



Unprotected positive DC conductors

AC (ALTERNATING CURRENT) ELECTRICAL SYSTEM

AC ELECTRICAL SYSTEM DETAILS

SYSTEM VOLTAGE:	120V AC 60 Hz
SHORE POWER INLET DESCRIPTION:	30A 125V Inlet
SHORE POWER CABLE:	30A 125V Cable
DISTRIBUTION PANEL:	120V AC Breaker Panel
REVERSE POLARITY INDICATION:	Red Light @ Breaker Panel
CONDITION OF WIRING:	See Note Below
CONDITION OF SHORE POWER INLET:	Good / Functional
CONDITION OF SHORE POWER CORD:	Good / Functional

NOTES / COMMENTS:

- A 120V AC power outlet receptacle / extension cord has been installed in the vessel's gasoline engine compartment. AC power outlet receptacles are not ignition protected.
ABYC Standards recommends: *Potential electrical sources of ignition located in spaces containing gasoline powered machinery, or gasoline fuel tank(s), or joint fitting(s), or other connection(s) between components of a gasoline system, shall be ignition protected (ABYC E-11.5.3.1).*
Recommend removal of AC power system outlet receptacle described in accordance with ABYC standard stated above.
- There are two systems on the 120V AC power distribution panel that are labeled incorrectly. The breakers labeled "Range" & "Ice Maker" power on two separate electric heaters. The "Range" has been changed to a propane stove, and the "Ice Maker" was not sighted onboard the vessel at time of survey inspection.



120V AC power outlet is not ignition protected

BATTERY CHARGER & POWER INVERTER SYSTEM DETAILS

CHARGER QTY:	1	
CHARGER CONDITION:	Powers On	
INVERTER QTY:	1	
INVERTER CONDITION:	Powers On	
<u>MAKE / MODEL</u>	<u>DESCRIPTION</u>	<u>SPECS</u>
ProMariner ProTech 1220i	Automatic Marine Battery Charger	20 Amp 12V DC Charger
MotoMaster Eliminator	Power Inverter	3000 Watt 120V AC Inverter

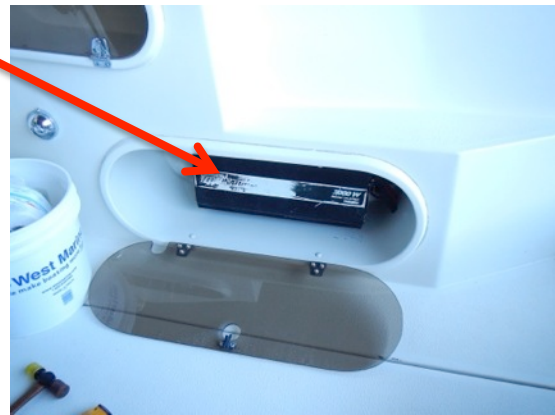
NOTES / COMMENTS:

- The power inverter is currently installed at a weather deck location which is susceptible to water exposure. The power inverter is not marked as marine grade or ignition protected.

ABYC Standards recommends: *Battery chargers, inverters, and inverter/chargers shall be installed in a ventilated, dry, accessible location (ABYC A-31.5.5.2.1).*

Potential electrical sources of ignition located in spaces containing gasoline powered machinery, or gasoline fuel tank(s), or joint fitting(s), or other connection(s) between components of a gasoline system, shall be ignition protected (ABYC E-11.5.3.1).

Recommend reconfigure power inverter in accordance with ABYC standards stated above.



THRU-HULL FITTING SYSTEMS

BELOW-THE-WATERLINE (BWL) THRU-HULL FITTING DETAILS

THRU-HULL MATERIAL:	Bronze
SEACOCK TYPE(S):	Ball Valve
SEACOCK CONDITION(S):	See Note Below

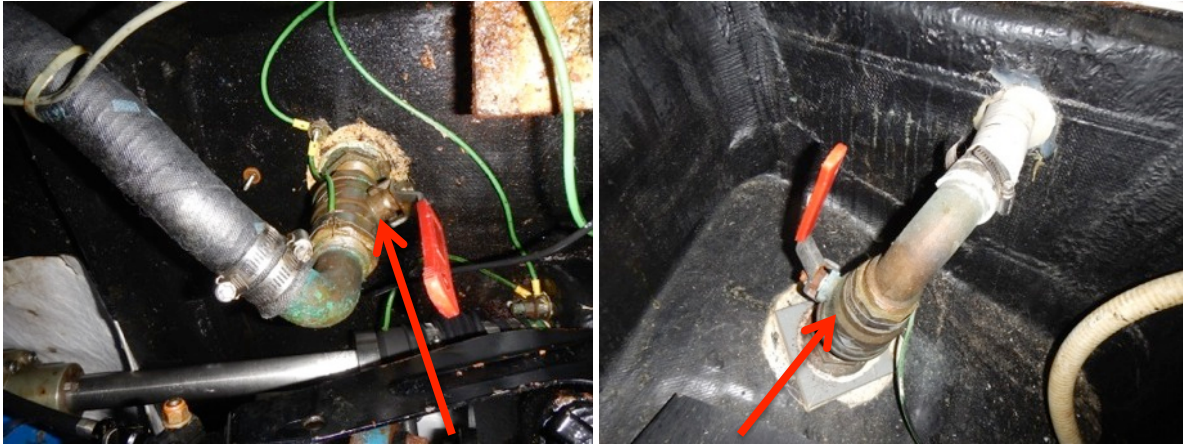
SEACOCK SYSTEMS

(2) Main Engine Raw Water Intake
(1) Toilet Raw Water Intake
(1) Waste Tank Discharge Overboard

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NOTES / COMMENTS:

- The starboard side main engine & waste tank discharge seacocks were not functional by hand when tested at time of survey inspection. Recommend service & exercise all vessel's ball valve seacocks so that all seacocks are operable by hand incase of emergency.
- The handle of the ball valve seacock for the toilet raw water intake system was loose when tested at time of survey inspection. Recommend service / tighten handle at toilet intake seacock as required.



Starboard engine & waste tank discharge seacocks are not functional

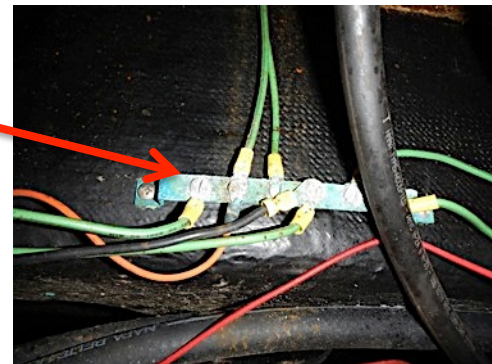
BONDING SYSTEM

BONDING (GROUNDING) SYSTEM DETAILS

BONDING SYSTEM DESCRIPTION:	Single Insulated Wire / Non-Current Carrying
CONDUCTOR DESCRIPTION:	Green Conductor
BONDING TERMINAL CONDITION:	Appear Fair / Corrosion @ Some Terminal Strips
BWL THRU-HULLS & FASTENERS TERMINATED:	Yes

NOTES / COMMENTS:

- Some of the vessel's bonding system terminals appear in corroded condition. Corrosion creates resistance at the conductor, and limits the effectiveness of the bonding conductor & overall bonding system. Recommend service / clean corrosion from bonding terminals & conductor ends as required.



FRESH WATER SYSTEM

FRESH WATER SYSTEM DETAILS

FRESH WATER TANK MATERIAL:	Plastic
FRESH WATER CAPACITY:	90 Gals.
FRESH WATER TANK CONDITION:	Appears Adequate Where Sighted

SYSTEM COMPONENT	MAKE / DESCRIPTION	CONDITION
12V DC Fresh Water Pump	Jabsco Water Pump	Appears Good / Powers On
120V AC Water Heater & Engine Cooling System Heat	10.5 Gal. Atwood Marine Water Heater	Appears Good / Powers On

SANITATION SYSTEM

SANITATION SYSTEM DETAILS

SANITATION SYSTEM TYPE:	MSD Type III (Holding Tank)
HOLDING TANK MATERIAL:	Plastic
HOLDING TANK CAPACITY:	37 Gals.
HOLDING TANK CONDITION:	Appears Adequate Where Sighted
SANITATION HOSE CONDITION:	Appear Adequate Where Sighted
WASTE TANK DISCHARGE PUMP:	Powers On / Appears Adequate
DOCKSIDE PUMP-OUT:	Yes / Appears Adequate

HEAD SYSTEM DETAILS

HEAD QTY:	1
TOILET TYPE:	Electric Flush
WATER TYPE:	Raw Water System
TOILET CONDITION:	Powers On / Functional
SHOWER SUMP PUMP:	Powers On / See Note Below

NOTES / COMMENTS:

- The cover of the shower sump pump was not secured when sighted at time of survey inspection. Recommend secure shower sump pump cover as required.



ELECTRONICS & NAVIGATION EQUIPMENT

ELECTRONICS & NAVIGATION EQUIPMENT DETAILS

EQUIPMENT	MAKE / MODEL	CONDITION
GPS Chartplotter & Marine Radar	Garmin GPSmap 4208	Powers On
Marine VHF Radio	Standard Horizon Intrepid LE	Powers On
Trim Tabs	Bennett Hydraulic Trim Tabs	Operation Unconfirmed

NOTES / COMMENTS:

- There was a hole in the flybridge dash at time of survey inspection that appears to formerly contain a piece of navigation equipment. Recommend cover hole in dash as required.



GALLEY APPLIANCES & CABIN INTERIOR

GALLEY APPLIANCES & CABIN INTERIOR SYSTEM DETAILS

EQUIPMENT	MAKE / MODEL	POWER SOURCE	CONDITION
Water Tap	Hot & Cold Water	12V DC	Powers On
Refrigerator & Freezer	Norcold	12V DC or 120V AC	Powers On
Microwave	Sharp	120V AC	Powers On
4 Burner Stovetop & Oven	Magic Chef	Propane	Not Tested
Electric Heat	2 Units	120V AC	Power On
Hydronic Heat	1 Unit	12V DC + Engine Cooling System Heat	Powers On

LPG (PROPANE) SYSTEM

LPG SYSTEM DETAILS

TANK QTY:	1
TANK MATERIAL:	Aluminum
LOCATION:	Swim Step Locker
SECURED FOR SEA CONDITIONS:	Yes
PROTECTED:	Yes
VENT:	Yes
VAPOR TIGHT TO HULL INTERIOR:	No
PRESSURE GAUGE:	No
REGULATOR:	Yes
SOLENOID / SHUTOFF:	Yes / Powers On
CONDITION OF GAS LINES:	Appear Questionable / See Note Below

NOTES / COMMENTS:

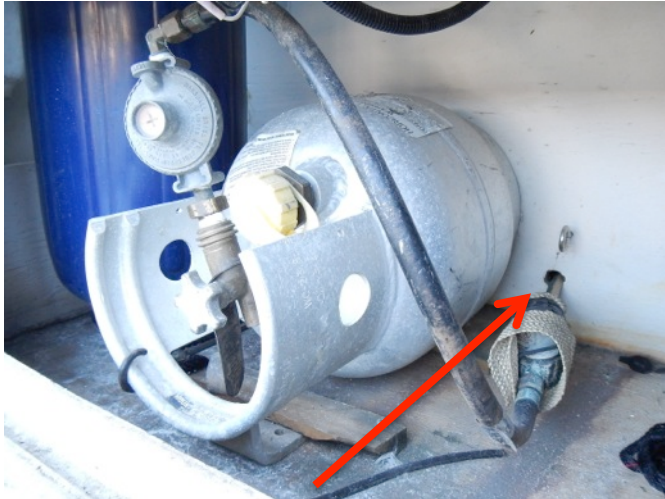
- The vessel's propane tank is mounted in a locker that opens from the side at the transom location. The locker is not vapor tight to the hull / engine compartment interior. The system is not equipped with a pressure gauge, and there is a kink in the gas supply line near the regulator fitting.

ABYC Standards recommends: *Lockers used to contain LPG cylinders, cylinder valves, regulating equipment and safety devices shall be designed to minimize the likelihood of use as a gear storage locker (ABYC A-1.8.1) and shall be, vapor tight to the hull interior (A-1.8.1.1), and located above the waterline (A-1.8.1.2), and constructed of, or lined with, corrosion resistant materials (A-1.8.1.3), and shall open only from the top (A-1.8.1.4) with a gasketed cover that shall latch tightly (A-1.8.1.5), and shall be capable of being quickly and conveniently opened without tools (A-1.8.1.6).*

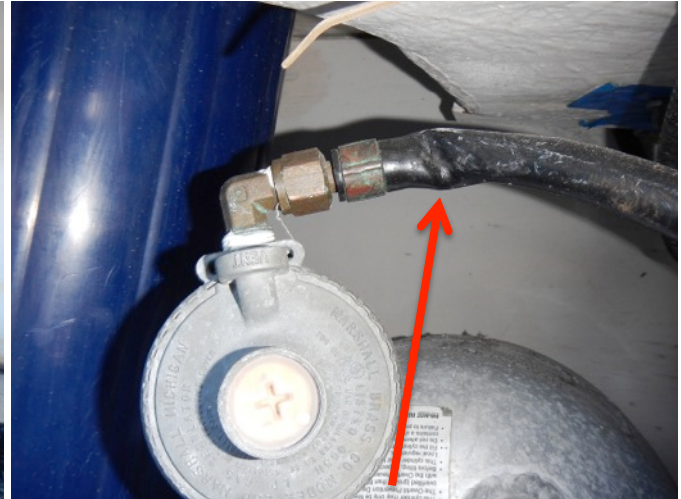
Each system shall be fitted with a pressure gauge. The gauge shall read the cylinder pressure side of the pressure regulator (ABYC A-1.5.2).

As installed, the fuel supply line system and its components shall be compatible with LPG, and shall withstand the stresses and exposure of the marine environment (ABYC A-1.9.1). LPG fuel supply line shall comply with the construction, performance, manufacturing and test, and marking requirements of UL 21, LP Gas Hose (A-1.9.2).

Recommend reconfigure vessel's LPG / Propane system in accordance with ABYC standards stated above.



LPG locker not vapor tight to hull interior



Kink in LPG supply line

GROUND TACKLE & DECK EQUIPMENT

GROUND TACKLE & DECK EQUIPMENT DETAILS	
ANCHOR DETAILS	
MAKE / STYLE:	20 KG Bruce Claw
CONDITION:	Good
ANCHOR WINDLASS DETAILS	
MAKE / MODEL:	Power Winch
POWER SOURCE:	12V DC
CONDITION:	Powers On

NOTES / COMMENTS:

- The anchor windlass winch powered with remote switch at the flybridge location. The local windlass control button at the foredeck location is not functional.

SAFETY EQUIPMENT

PERSONAL FLOATATION DEVICE (PFD) DETAILS	
PFD QTY:	6+ Sighted Onboard
PFD TYPE:	USCG Approved Type II & Type II
TYPE IV THROWABLE:	Yes
DISTRESS SIGNAL FLARE DETAILS	
FLARE QTY:	See Note Below
FIRE EXTINGUISHER DETAILS	
HANDHELD EXTINGUISHER QTY:	3+ Sighted Onboard
EXTINGUISHER TYPE:	Type A, B, C
INSPECTION TAGS:	Not Sighted
AUTOMATIC EXTINGUISHER:	Fireboy Halon
NOISE SIGNALING DEVICE DETAILS	
HARD WIRED HORN:	Not Functional
HANDHELD AIR HORN:	Yes
WHISTLE:	Not Sighted

ALARM & DETECTION DEVICES	
CO ALARM	Yes / Powers On
NAVIGATION LIGHT DETAILS	
PORT (RED):	Functional
STARBOARD (GREEN)	Functional
MASTHEAD (WHITE)	Functional
STERN (WHITE)	Functional
ANCHOR (WHITE)	Functional
BILGE PUMP DETAILS	
BILGE PUMP QTY:	2
POWER SOURCE:	12V DC
PUMP CONDITION(S):	Power On / See Note Below
HIGH WATER BILGE ALARM:	Not Installed

NOTES / COMMENTS:

- All distress signal flares sighted onboard the vessel at time of survey inspection were EXPIRED
USCG 46 CFR regulations state: *All vessels 16ft. and larger are required to carry 3 distress signal flares suitable for day & night use (3 day & 3 night, or 3 rated for day or night use). (46 CFR 175.110). No person may use a boat unless each signal required by sec. 175.110 is in serviceable condition and the service life of the signal, if indicated by a date marked on the signal, has not expired. (46 CFR 175.125).*
Equip vessel in accordance with USCG CFR regulations stated above.
- The aft bilge pump would not power on with the manual switch at the flybridge location, but did power on with automatic float switch at the pump location. Recommend service / repair or renewal of bilge pump components as required.



FINDINGS & RECOMMENDATIONS

All safety equipment aboard this vessel, including VHF channel 16, fire extinguishers, flares, and PFD's have been checked and deficiencies noted. New **NFPA** (National Fire Protection Association) or **ABYC** (American Boating and Yacht Council) standards, as quoted, may have gone into effect since this vessel was built. Noted under **SAFETY DEFICIENCIES** is where these standards apply to the safety of the vessel and its occupants, and should be addressed before the vessel is next underway. Findings may also be in violation of **USCG** Regulations. While **NFPA** and **ABYC** standards are not always retroactive, except for where there is a distinct hazard of life or property, this firm suggests their compliance for safety reasons. All **CFR** (Code of Federal Regulations) and **72 COLREGS** (Navigation Rules) quoted herein are mandatory for correction.

- A. SAFETY DEFICIENCIES**
- B. DEFICIENCIES REQUIRING ATTENTION**
- C. SURVEYORS NOTES & OBSERVATIONS**
- D. ABYC RECOMMENDATIONS**

A. SAFETY DEFICIENCIES

1. All distress signal flares sighted onboard the vessel at time of survey inspection were EXPIRED
USCG 46 CFR regulations state: *All vessels 16ft. and larger are required to carry 3 distress signal flares suitable for day & night use (3 day & 3 night, or 3 rated for day or night use). (46 CFR 175.110). No person may use a boat unless each signal required by sec. 175.110 is in serviceable condition and the service life of the signal, if indicated by a date marked on the signal, has not expired. (46 CFR 175.125).*
Equip vessel in accordance with USCG CFR regulations stated above.

B. DEFICIENCIES REQUIRING ATTENTION

1. There is evidence of an ATF gear fluid sighted at an absorbent pad below the port side engine Velvet Drive / Borg Warner gear. There was a visible gear fluid leak sighted at the Velvet Drive gear select lever of the port engine gear. Recommend service / repair port engine Velvet Drive gear as required.
2. One prop blade at both port & starboard props is slightly bent / out of alignment. Damage described appears minor & serviceable. Recommend service / tune & balance vessel's props at time of vessel's next scheduled haul-out.
3. The aft most prop nut at the port side prop shaft is loose. The port side prop nut that secures the prop is tight at the prop hub. Recommend service / adjust / tighten loose prop nut described at time of vessel's next scheduled haul-out.
4. The starboard side main engine & waste tank discharge seacocks were not functional by hand when tested at time of survey inspection. Recommend service & exercise all vessel's ball valve seacocks so that all seacocks are operable by hand in case of emergency.

C. SURVEYORS NOTES & OBSERVATIONS

1. The vessel's bow pulpit structure was identified as soft / delaminated when inspected at time of survey inspection. Percussion hammer soundings were dull, moisture meter readings were elevated, there is visual indentation where the deck cleat is fastened to the pulpit structure, and the structure is physically soft when pressure is applied with a foot or hand. Vessel's foredeck structure appears in structurally sound condition. Pulpit structure is separate from foredeck structure. Recommend monitor condition of pulpit structure, and service / repair or renew as required.
2. There were several deck cleats that were slightly loose when tapped with percussion hammer at time of survey inspection. Recommend service / tighten all vessel's deck cleats as required.

3. There are several holes in the vessel's superstructure (appear to be former mounting holes for antenna mounts) that have been filled & sealed. Deficiency described is cosmetic & serviceable. Recommend monitor condition of filled holes in vessel's super structure, and service / repair as desired.
4. There were approximately 10 to 20 blisters sighted at the vessel's wetted surface area at time of haul-out inspection. Blisters sighted ranged in size from 1" diameter to 8" in diameter. Blisters were not lanced at time of inspection. Severity of blister penetration is undetermined. Recommend monitor quantity, size, location, and condition of blisters each time vessel is hauled out of the water, and service / repair blisters as required.
5. The raw water intake hoses to the main engines appear old and in questionable condition. There is duct tape wrapped around one raw water intake hose. The wire reinforcement is poking through on a second raw water intake hose. Recommend monitor condition of vessel's main engine raw water intake hoses, and renew hoses as required.
6. Some of the vessel's bonding system terminals appear in corroded condition. Corrosion creates resistance at the conductor, and limits the effectiveness of the bonding conductor & overall bonding system. Recommend service / clean corrosion from bonding terminals & conductor ends as required.
7. The aft bilge pump would not power on with the manual switch at the flybridge location, but did power on with automatic float switch at the pump location. Recommend service / repair or renewal of bilge pump components as required.

D. ABYC STANDARDS RECOMMENDATIONS

1. The vessel's House Bank DC power system batteries are strapped together in a block. The block of batteries is not secured to the surface they are mounted on. Mounting surface is a plywood bottom that is secured to the vessel's stringers. Batteries are not installed in a battery box.

ABYC Standards recommends: *Each installed battery shall not move more than one inch in any direction when a pulling force of 90 pounds or twice the battery weight, whichever is less, is applied through the center of gravity of the battery (ABYC E-10.7.4).*

Battery mounting materials and surfaces shall withstand electrolyte attack (ABYC E-10.7.1). Provision shall be made to contain incidental leakage and spillage of electrolyte (ABYC E-10.7.2).

Recommend install battery boxes or battery tray, and secure batteries at their mounted location in accordance with ABYC standards stated above.

2. The 12V Dyno Start Bank batteries use wing nut fasteners to secure conductors to battery terminals.

ABYC Standards recommends: *Battery cables and other conductors size 6 AWG and larger shall not be connected to the battery with wing nuts (ABYC E-10.8.3).*

Recommend renew wing nut fasteners described with marine grades stainless steel hex nut style fasteners at battery terminals.

3. There are two locations in the engine compartment where the ungrounded (positive) conductor to the inverter system is not protected / shielded from accidental termination.

ABYC Standards recommends: *Continuously energized parts, such as positive battery terminals and both ends of all wire connected thereto, shall be physically protected with boots, or other form of protection, that cover all energized surfaces to prevent accidental short circuits (ABYC E-11.5.4.7.5).*

Recommend install protection at all positive conductor ends in accordance with ABYC standards stated above.

4. A 120V AC power outlet receptacle / extension cord has been installed in the vessel's gasoline engine compartment. AC power outlet receptacles are not ignition protected.
ABYC Standards recommends: Potential electrical sources of ignition located in spaces containing gasoline powered machinery, or gasoline fuel tank(s), or joint fitting(s), or other connection(s) between components of a gasoline system, shall be ignition protected (ABYC E-11.5.3.1).
Recommend removal of AC power system outlet receptacle described in accordance with ABYC standard stated above.

5. The power inverter is currently installed at a weather deck location which is susceptible to water exposure. The power inverter is not marked as marine grade or ignition protected.
ABYC Standards recommends: Battery chargers, inverters, and inverter/chargers shall be installed in a ventilated, dry, accessible location (ABYC A-31.5.5.2.1).
Potential electrical sources of ignition located in spaces containing gasoline powered machinery, or gasoline fuel tank(s), or joint fitting(s), or other connection(s) between components of a gasoline system, shall be ignition protected (ABYC E-11.5.3.1).
Recommend reconfigure power inverter in accordance with ABYC standards stated above.

6. The vessel's propane tank is mounted in a locker that opens from the side at the transom location. The locker is not vapor tight to the hull / engine compartment interior. The system is not equipped with a pressure gauge, and there is a kink in the gas supply line near the regulator fitting.
ABYC Standards recommends: Lockers used to contain LPG cylinders, cylinder valves, regulating equipment and safety devices shall be designed to minimize the likelihood of use as a gear storage locker (ABYC A-1.8.1) and shall be, vapor tight to the hull interior (A-1.8.1.1), and located above the waterline (A-1.8.1.2), and constructed of, or lined with, corrosion resistant materials (A-1.8.1.3), and shall open only from the top (A-1.8.1.4) with a gasketed cover that shall latch tightly (A-1.8.1.5), and shall be capable of being quickly and conveniently opened without tools (A-1.8.1.6).
Each system shall be fitted with a pressure gauge. The gauge shall read the cylinder pressure side of the pressure regulator (ABYC A-1.5.2).
As installed, the fuel supply line system and its components shall be compatible with LPG, and shall withstand the stresses and exposure of the marine environment (ABYC A-1.9.1). LPG fuel supply line shall comply with the construction, performance, manufacturing and test, and marking requirements of UL 21, LP Gas Hose (A-1.9.2).
Recommend reconfigure vessel's LPG / Propane system in accordance with ABYC standards stated above.

CONDITION

STATEMENT OF OVERALL VESSEL RATING OF CONDITION:

It is the surveyor's experience that develops an opinion of the overall vessel rating of condition after a complete survey has been performed and the findings organized in a logical manner.

The grading of condition as developed by **BUC RESEARCH**, found within **BUC USED BOAT PRICE GUIDE**, is widely accepted in the marine industry for a vessel at the time of survey. It determines the adjustment to the range of base values for a similar vessel sold within a given time period as a consideration to determine the Market Value.

The following is the accepted marine grading system of condition:

EXCELLENT (BRISTOL) CONDITION:

- Is a vessel that is maintained in mint or Bristol fashion – usually better than factory new – loaded with extras – a rarity.

ABOVE AVERAGE CONDITION:

- Has had above average care and is equipped with extra electrical and electronic gear.

AVERAGE CONDITION:

- Ready for sale. Normally equipped for her size. May require normal wear & tear / maintenance improvements.

FAIR CONDITION:

- Requires repairs to prepare for sale.

POOR CONDITION:

- Substantial yard work required and devoid of extras.

RESTORABLE CONDITION:

- Enough of hull and engine exists to restore the boat to usable condition.

As a result of my investigation, as shown in the **SYSTEMS** and **FINDINGS & RECOMMENDATIONS** section, my opinion is:

OVERALL VESSEL RATING:

FAIR

VALUATION

STATEMENT OF VALUATION:

The **FAIR MARKET VALUE** is the most probable price in terms of money which a vessel should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently, knowledgeably, and assuming the price is not affected by undue stimulus.

Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- ❖ Buyer and seller are typically motivated.
- ❖ Both parties are well informed or well advised, and each acting in what they consider their own best interest.
- ❖ A reasonable time is allowed for exposure in the open market.
- ❖ Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto
- ❖ The price represents a normal consideration for the vessel sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

Vessel valuation range is determined by using the following sources: www.soldboats.com, www.yachtworld.com, BUC Used Boat Price Guide, N.A.D.A Price Guides, and other current vessel listings. Local market demands, and current vessel condition can affect the valuation.

CLOSEST COMPARABLE:

1. 1989 Carver 3467 Santego – Listed: \$64,999 USD (09/2009) – Sold: \$50,000 USD (02/2010) – Seattle, WA – Note: Appears similarly equipped. Same engine configuration.
 2. 1990 Carver 3467 Santego – Listed: \$44,000 USD (02/2012) – Sold: \$41,000 USD (05/2012) – San Diego, CA – Note: Appears similarly equipped. Crusader 454 CID gasoline engine configuration.
 3. 1989 Carver 3467 Santego – Listed: \$45,000 USD (08/2011) – Sold: \$39,000 USD (05/2012) – East Dubuque, IL – Note: Appears similarly equipped. Same engine configuration.
 4. 1989 Carver 3467 Santego – Listed: \$38,500 USD (08/2013) – Sold: \$32,500 USD (11/2013) – Kenosha, WI – Note: Appears similarly equipped. Crusader 454 CID gasoline engine configuration.
 5. 1989 Carver 3467 Santego – Listed: \$46,500 USD (01/2011) – Sold: \$38,250 USD (09/2011) – Wildwood, NJ – Note: Appears similarly equipped. Same engine configuration.
-

FAIR MARKET VALUE:

\$ 40,150.00 USD

Forty thousand one hundred fifty dollars and zero cents

REPLACEMENT COST:

\$ 375,000.00 USD

Three hundred seventy-five thousand dollars and zero cents

VALUATION NOTE:

- *Valuation figures are statements of opinion. No guarantees can be made. Figures should not be considered absolute.*

CONCLUSION

In accordance with the request for Report of Marine Survey on the 1989 Carver 3467 Santego, M/V "██████████", for the purpose of evaluating its present condition, and estimating its Fair Market Value & Replacement Cost, I herewith submit my conclusion based upon the preceding report. The subject vessel was inspected on December ██████, 2013, and was found to be a well-constructed, appointed, and comfortable vessel.

In consequence of this inspection, I am of the opinion that the vessel is in suitable condition and fit for her intended service, subject to the above recommendations for safety.

SURVEYORS CERTIFICATION:

I certify that, to the best of my knowledge and belief:

- ❖ The statements of fact contained in this report are true and correct.
- ❖ The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are of my personal, unbiased professional analyses, opinions, and conclusions.
- ❖ I have no present or prospective interest in the vessel that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.
- ❖ My compensation is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of stipulate results, or the occurrence of a subsequent event.
- ❖ I have made a personal inspection of the vessel that is the subject of this report.

This report is submitted in good faith. The statements and information contained in it are not to be construed that other unforeseen or undetected defects or damages do not exist. All the findings reflect conditions observed at the time of the survey inspection. The surveyor reserves the right to amend or extend this report upon receipt of additional relevant information.

The above report is a statement of opinion made, signed and submitted without prejudice.

Respectfully submitted,



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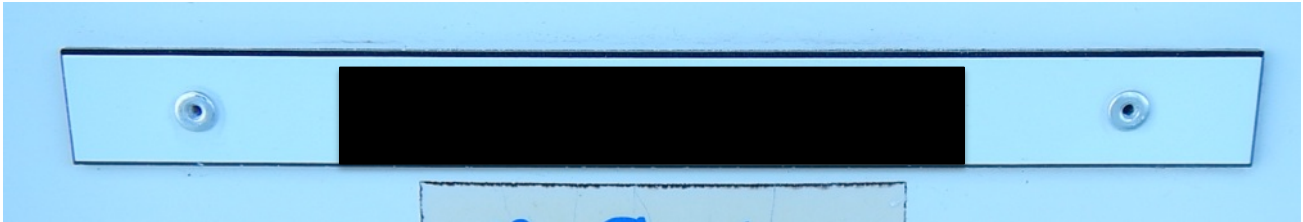


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HULL IDENTIFICATION NUMBER



HIN: [REDACTED]

Cale Mathers - SA
SAMS® Marine Surveyor

December [REDACTED], 2013
Date
