

GLADDING MARINE SURVEYING AND CONSULTING, LLC

1738 PICKWICK PLACE-FLEMING ISLAND-FLORIDA-32003

PHONE: 904-945-0511 FAX: 904-215-9243 EMAIL: gladdings@msn.com



SURVEY REPORT VESSEL: xxxxxxxxx

Prepared by: Bill Gladding AMS® #810

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GENERAL INFORMATION

SURVEY PURPOSE: prepurchase
FILE #: 20xx-07-26 Vista 46 1988

REQUESTED BY: xxxxxxxxxxxxxx
REPORT DATE: July 26, 2016

CLIENT INFORMATION: xxxxxxxxxxxxxx
OWNER INFORMATION: xxxxxxxxxxxxxx

SURVEY DATE: July 26 & 27, 2016
SURVEY LOCATION: Owner's residence & Maximo Boatyard
ATTENDING: xxxxxxxxxxxxxx
ENGINE SURVEYOR: basic external checks & oil analysis by hull surveyor

VESSEL & MACHINERY DATA

Vessel identification numbers (sighted aboard, photos at end of report if found aboard)

Hull ID #: xxxxxxxxxxxxxx Documentation #: xxxxxxxxxxxxxx Hailing Port: xxxxxxxxxxxxxx, FL

Vessel type and dimensions (taken from Bucvalupro.com)

Manufacturer: Vista Yacht Co Model: Vista 46 Model year: 1988 Length: 46'6" Beam: 15'5"
Draft: 3'8" to 4'5" Weight: 34,000 lbs Hull composition: fiberglass

Engines (sighted aboard)

Type and #: twin inboard Horsepower: 320@2,800 rpms Fuel type: diesel Manufacturer: Caterpillar
Model: 3208T Serial #: port/01Z11xxx, stbd/01Z09xxx Hours: port/2,616, stbd/2,594

Transmissions (sighted aboard)

Manufacturer: Twin Disc Model: MG506 Ratio: 1.97 Serial #: port/5X1xxx, stbd/5X1xxx

Alternating Current Generator (sighted aboard)

Manufacturer: Onan Model: 11.5MDKAW-2323 KW: 11.5 Fuel type: diesel Serial #: F030512xxx
Hours: 2,479

TENDER DATA

Identification numbers

Hull ID #: XMOxxxxxxC303 (this number has an extra digit) Registration #: xxxxxxxxxxxxxx
Manufacturer: AB Inflatables Model: 320VS Year: 2003 Length: 10'6" Beam: 5'5"

Engine

Type and #: outboard Horsepower: 20 Fuel type: gas Manufacturer: Honda Model: BF20
Serial #: BAMJ-1200xxx

RECOMMENDATIONS

(Items on this list should be addressed on a priority basis)

1. Put aboard at least three unexpired USCG approved day/night visual distress signals.
2. Stainless ladder on swim platform should be secured in a way it can be deployed by passengers who may find themselves in the water unexpectedly so they may reboard unassisted.
3. Forward two hose clamps on both propeller shaft packing gland hoses have significant corrosion; replace with new.

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4. Stbd propeller shaft packing gland leaks lightly continuously while underway; service as necessary to insure it leaks only a drop every few seconds.
5. Aft toilet overboard discharge seacock in aft head vanity could not be moved applying reasonable pressure; service as necessary to restore its normal function.
6. Tender crane winch wire has fish hooks, is overwrapped and flattened; replace with new.
7. 240 volt Shore power inlet fitting socket is loose in fitting; refasten as necessary.
8. Battery voltage measured 12.4 while underway using main engines alternators as charging source and jumped to over 13 volts when inverter charger was activated indicating engines alternators are producing little to no charging current; troubleshoot and repair main engines alternators as necessary to restore their normal function.
9. DC to AC inverter has no service disconnect; install switch that provides quick convenient means to disconnect it from batteries when necessary using ABYC E-11 for guidance.
10. Install audible alarm system that sounds when excess water is present in bilges.
11. Stbd main engine is ticking lightly and makes a huffing sound in inlet; employ a qualified technician to evaluate if engine requires adjustment or service to insure its reliable function (engine performed well and reached its maximum rated rpms during trial run).
12. Anchor windlass is inoperative; service as necessary to restore its normal function.

(Also see Summary Remarks and Notes section at end of survey)

This vessel was manufactured prior to enactment of some of the USCG 33CFR requirements and NFPA and ABYC standards and recommendations in effect today. This survey addresses those items thought to be necessary for safety but does not suggest complete compliance with current regulations or standards and recommendations.

INTENDED USE: recreational

SUITABLE FOR INTENDED USE: yes (upon completion of recommendations cited above)

NAVIGATIONAL LIMITS: coastal waters of the USA & Caribbean Islands

For regular use in excess of 12 miles offshore suggest carrying Epirb and offshore type lifejackets

VALUATION

Pricing guides

2016 Powerboat Guide.....Model not listed

Abos.com..... Model not listed

Bucvalupro.....\$77,000 to \$84,600

NADAguides.com.....\$37,900 to \$42,900

(Options not added to guide values unless noted otherwise)

Current listings

Yachtworld.com.....\$99,900 to \$119,900

(3 results – searched 46' Vista models in the USA)

Reported sales

Soldboats.com.....\$87,500 to \$130,400

(9 results – searched 1986 to 1990 45' to 47' fiberglass, twin diesel trawlers reported sold June 2015 to present in the USA)

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Subject vessel was found to be in overall average condition. It has received a number of notable upgrades that maintain its utility and reliability. Recent sales history, current listings and pricing guides to use for comparison makes a market approach a reliable means for establishing its value. Based upon the preceding it is the opinion of the undersigned the following values should apply:

Current value: \$xxxxxxx Replacement cost: \$791,000 (Bucvalupro.com)

APPROVAL

This survey may be used for valuation, insurance or mortgage requirements. This survey checks for compliance with U.S. Coast Guard regulations and American Boat and Yacht Council, Inc.

Recommended Standards and Practices. In addition, the general structural condition of the vessel and suitability for its intended service will be examined. This survey cannot check for latent defects which could not readily be discovered by inspection without removal of machinery, tanks, sheathing, joiner work, upholstery, bulkheads, ceiling, fascia or other fixed material, or disassembly of machinery, plumbing, wiring or other parts components or systems.

The undersigned has conducted this survey and issued this report for the sole use of the specified requesting party for an agreed fee based upon the intended use of the report; accordingly, others are not to use this report and not rely upon the contents of this report without payment to the Company of an additional agreed fee based upon the reevaluation of the same factors. The Company shall have no liability for property loss damages, and no liability for punitive damages all of which shall be deemed to have knowingly and voluntarily waived upon use of this report. In the event of dissatisfaction with the conduct of the survey, with errors contained in the report, or by omission of information, the sole and maximum remedy shall be limited to the amount of fee actually received for this report which shall be refunded regardless of the number of claims or suits, regardless of whether under theory of tort, contract, warranty, products, outrage or otherwise.

This survey contains opinions and observations based on my skill, experience and training as a marine surveyor and consultant. Under no circumstances shall the report be understood to constitute a representation, guarantee, or warranty expressed or implied of any kind as the condition or soundness for the subject vessel, its hull, engines, machinery, equipment or system or any appurtenances thereof, or the cost of effecting any repairs or modifications. The report of survey is not valid until the fee for the survey is paid in full.

Attorney fees; costs: In any litigation arising out of the contract, the prevailing party shall be entitled to recover reasonable attorney's fees and costs.



William K. Gladding, AMS® #810

Society of Accredited Marine Surveyors

Gladding Marine Surveying and Consulting, LLC

SCOPE OF SURVEY

The vessel was inspected in and out of the water without making removals or opening parts normally concealed and without making borings to ascertain thickness or condition of structural members. As a

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result, some areas behind cabinetry and under decks were not reached. Fixtures and appliances were powered up and exercised where indicated. Locker doors and drawers were worked and examined for proper function. Potential leak sources such as portlights and deck hatches were examined for evidence of water stains or other indications of leakage. The hull exterior was inspected visually and sounded with a mallet to locate any voids, delaminating or cracking. The underwater gear and other fittings were inspected and checked for indications of damage, abuse or excessive wear. The vessel was attended during a trial run during which various readings regarding the vessel performance were monitored and systems aboard were observed while functioning.

Test equipment that may be referenced in the report:

- Tramex Skipper or GE Aquant moisture meter
- Ideal Suretest AC electrical test meter
- AC electric three light plug in tester
- Check-Line non-contact digital tachometer
- Multi-meter electrical tester
- Assorted hammers and measuring devices

VESSEL GENERAL DESCRIPTIONS

Exterior arrangement – double cabin motor yacht with flybridge noted the following:

- Hull – modified V-bottomed semi-displacement type with shallow full length keel and hard chines; stem is raked forward and hull sides outward at bow; sheer is nearly straight and slopes downward towards the stern; transom is plumb full height with bolted on molded fiberglass swim platform
- Decks and superstructure – flush main deck from bow to stern with step up aft over aft trunk cabin; side decks are comfortably wide providing easy access fore and aft on main deck level; superstructure consists of trunk cabin forward followed by the pilothouse main cabin flybridge its full length and width above with spoiler overhead aft; aft deck area is partially enclosed beneath a molded fiberglass hard-top

Interior arrangement – lower cabins forward and aft in hull raised deck between over the machinery space noted the following:

- Staterooms – one in each lower cabin
- Heads – one in each lower cabin
- Galley – aft end of forward lower cabin stbd side
- Dinette – aft end of forward lower cabin port side
- Saloon – main cabin (aft deck and flybridge also have lounge seating)
- Helm – stbd side of main cabin and flybridge centerline
- Other – engine room is very comfortable size with kneeling height headroom ample space around engines on all sides

Structural elements

- Hull skin material and type cosmetic finish – appears to be solid molded fiberglass with gelcoat cosmetic finish and painted stripes
- Hull grid system layout and materials – four continuous fiberglass stringers
- Hull deck joint – overlapping flanges fiberglassed

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- Continuous transverse bulkheads locations and materials – plywood tabbed to hull at anchor locker and aft stateroom at stern; partial bulkheads and partitions between
- Decks and superstructure materials and type cosmetic finish – solid and cored molded fiberglass with gelcoat and painted cosmetic finishes and varnished teak overlay on side deck steps and aft deck

SURVEY FINDINGS

UPGRADES/REBUILDS

Including but not limited to the following:

- Fuel tank replaced with new fiberglass types (allows easier removal of prop shafts for service)
- AC generator replaced and upgraded
- Additional battery added for inverter system
- Toilets converted to freshwater rinse
- Tender & outboard engine
- Old style straight cut propeller shaft couplings replaced with split couplings
- Newer navigation electronics equipment
- 2 x chest type freezers added
- Bonding system serviced and shaft brushes added
- New flybridge Bimini top
- New main engine exhaust hoses

TRIAL RUN

- Location – local waters between owner's residence and Maximo Boatyard
- Duration – approximately 1 ½ hours
- Number of passengers – five
- Tanks levels:
 - Fuel – 24%
 - Water – 10%
 - Waste – unknown
- Hull performance – vessel performed well cruising at various speeds engine rpms between 1600 and 2000 rpms hull speeds between 9 and 11 knots
- Engine performance – rpms from flybridge helm:
 - Wide open throttle rpms – port/2,693; stbd/2,810
 - Single engine wide open rpms – port/2,651; stbd/2,722
 - Temperatures and pressures – remained normal at all speeds and conditions
- AC generator performance:
 - Voltage and frequency - normal
 - Loads applied – all air-conditioners and galley refrigerators and freezers
- Comments – vessel performed well, ran smoothly and was a very stable platform

HULL ABOVE WATERLINE AND RELATED

Structural elements

Condition: average or better

Condition of structural elements such as stringers, transverse framing, bulkheads, partitions and other similar type hull supports based upon visual inspection to insure they are maintaining their proper shape and remain securely attached, tap tested to insure they are not delaminated or deteriorated and in some cases examined using a moisture meter

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Topsides

Structural condition: average or better

Structural assessment based upon visual examination of hull's shape for damage, distortions, sagging, hogging or other signs structure is failing or is not adequately supported; moisture testing to locate areas where abnormal readings may indicate deterioration of laminates or cores; and tap testing areas that are suspect as a result of abnormal indications from visual inspection and readings from moisture meter

Cosmetic condition: average or better (see comments below)

Cosmetic condition of paint, gelcoat and varnish based upon surveyor's opinion of appearance compared to similar type vessels considering factors such as gloss, extent of oxidation, flaking, discoloration, wear and tear or other factors

Condition other features: average or better

- Guards – sheer/molded fiberglass & stainless striker
- Swim platform – molded fiberglass resting on stainless support brackets
- Reboarding means – folding stainless ladder

Comments:

- Hull has normal wear and tear and some gouges in gelcoat on stem caused by anchoring striking hull

Deck drains

Type: freeing ports Condition: average or better

Weather decks with in-hull drain systems: side decks

The undersigned has witnessed several sinking and flooding events due to clogged deck drains backing up rain water on deck then flooding to hull interior. In order to prevent this type of event from occurring deck drain fittings and piping should be maintained leak free, kept clean and free of debris and hatch seals maintained to prevent water from leaking to hull interior or accumulating on weather decks and spilling to hull interior.

Decks & superstructure

Structural condition: average or better

Structural assessment based upon visual examination of hull's shape for damage, distortions, sagging or other signs structure is failing or is not adequately supported; moisture testing to locate areas where abnormal readings may indicate deterioration of laminates or cores; and tap testing areas that are suspect as a result of abnormal indications from visual inspection and readings from moisture meter

Cosmetic condition: fair to average (varies)

Cosmetic condition of paint, gelcoat and varnish based upon surveyor's opinion of appearance compared to similar type vessels considering factors such as gloss, extent of oxidation, flaking, discoloration, wear and tear or other factors

Comments:

- **Aft deck wing door frames have bubbled gelcoat and fiberglass**
- **Aft deck shade has water oozing at aft stbd corner and by port side support at top**

Exterior soft goods

Condition/appearance: average to above average Wear & tear: not significant Serviceable: xx

Type & location:

- Main cabin windshield shades – vinyl screen
- Flybridge Bimini & spray shield – stainless frame, canvass & Eisenglass
- Flybridge cushions – vinyl skins

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Exterior hardware

Condition/appearance: average Anchoring: securely attached Bedding: appeared adequate

Type & location:

- Safety rails & handholds – sectional stainless
- Aft deck dodger - composite

Tie-up gear

Condition/appearance: average Anchoring: securely attached Bedding: appeared adequate

Type & location:

- Foredeck – 2 x stainless fixed mooring cleats & fair leads
- Amidships – 4 x stainless fixed mooring cleats
- Aft deck – 2 x stainless fixed mooring cleats & 4 x fair leads

Anchoring gear

Condition/appearance: average or better Function: appeared serviceable

Locations/descriptions:

- Anchor pulpit – molded fiberglass bolted to main deck
- Chute(s) – single stainless with plastic roller

Glazing materials

Condition/appearance: average Function: appeared serviceable Gaskets and seals: appeared serviceable

Location & type:

- Flybridge – fixed windscreen/aluminum & plastic
- Forward trunk cabin sides – fixed windows/aluminum & glass
- Pilothouse/main cabin – fixed & sliding windows/aluminum & glass
- Aft trunk cabin – sliding windows/aluminum & glass

Exterior hatches, portlights and doors

Condition/appearance: average Function: appeared serviceable Gaskets and seals: **appeared serviceable (except as noted in summary remarks & notes)**

Location & type:

- Hull sides – hinged portlights/stainless & glass
- Transom (**escape & ventilation**) – large hinged portlights/aluminum & glass
- Foredeck (**escape & ventilation**) – hinged deck hatches/aluminum & plastic
- Aft deck wings – hinged doors/aluminum & glass
- Stbd side of pilothouse – sliding door/aluminum & glass
- Aft end of main cabin – hinged doors/varnished teak
- Stern rail – hinged gate/wood & composite
- Upper deck – sliding hatch cover/molded fiberglass & wood

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HULL BELOW WATERLINE AND RELATED

Hull below the waterline

Structural condition: average

Structural assessment based upon visual examination of hull's shape for damage, distortions, sagging, hogging or other signs structure is failing or is not adequately supported; tap testing for purposes of comparing variations in tap sound indicative of previous repairs, delaminating, moisture intrusion or blistering; and moisture testing if hull is sufficiently dried and does not have coatings that interfere with moisture meter function to locate areas where abnormal readings may indicate deterioration of laminates or cores

Cosmetic condition: fair to average

Cosmetic condition based upon surveyor's opinion of hull appearance compared to similar type vessels considering factors such as paint build-up, smoothness of hull, blistering and other features that affect its appearance

Comments:

- **Hull below waterline appears to have osmotic damage to gelcoat and outer laminates, scattered bulging blisters were noted and areas where repairs have been made to others. Hull structure does not appear compromised and repair is not necessary although vessel cosmetic appearance would be improved if repair was undertaken. Delay of repair will incrementally increase its cost if done at a later date.**

Underwater gear

Condition/appearance: average Function: normal Damage, abuse or excessive wear: **none (except as noted in summary remarks & notes)**

- Propellers – 25" x 22" three bladed bronze alloy (details from owner's records)
- Shafting – 2" stainless
- Shaft support – bronze V & I type struts each side
- Bearings – 4 x rubber Cutless® types (shaft logs may also be fitted with bearings)
- Shaft log – integral fiberglass & bronze thru-hull
- Shaft seal – self-aligning bronze packing glands
- Fasteners – appeared secure

Rudders & linkages

Condition/appearance: average Function: normal Damage, abuse or excessive wear: none noted

- Rudder description – welded stainless
- Thru-hull seal – fixed bronze packing glands
- Supports – stainless channels, bronze bearings & collars
- Linkages – bronze tillers, stainless clevises & tie-bar
- Steering components – stainless hydraulic cylinder
- Emergency tiller – inside aft berth by steering gear

Trim tabs

Condition/appearance: average Function: **inoperative** Damage, abuse or excessive wear: none noted

- | | |
|--|---|
| • <u>Manufacturer</u> – Bennett Marine | • <u>Planes</u> – 54" x 12" hinged stainless dual actuators |
| • <u>Type</u> – 12 volt electric hydraulic | • <u>Test performed</u> – not tested |
| • <u>Controls</u> – dual rocker switches | |
| • <u>Pump</u> – aft berth | |

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Thru-hulls, seacocks, transducers

Underwater – Threaded bronze fitted with ¼ turn valves, bonded with stainless clamps on hoses connections at the following bilge locations found to be serviceable and in average condition unless noted otherwise:

- Forward lower cabin bilge – **one unused (formerly forward toilet raw water intake), forward toilet & waste tank overboard discharges, galley sink raw water inlet**
- Forward engine room outboard port & stbd – **2 x unused**
- Forward of main engines – **main engines, AC generator & air-conditioner inlets**
- Aft head vanity – **aft toilet overboard discharge & one unused (formerly aft toilet raw water intake)**

Topsides – threaded bronze/serviceable

Transducers – engine room centerline/serviceable

ACCOMMODATIONS, HOUSEHOLD SYSTEMS AND COMFORT SYSTEMS

Interior spaces

Bulkheads, partitions and cabinetry found to be solid and in good condition, locker and cabinet doors and drawers found to be in average or better condition and working order. Interior décor was found to be in overall average condition with light to moderate wear and tear descriptions as follows:

- Cabinetry – varnished teak (Burmese according to listing)
- Doors – hinged varnished teak
- Decks – varnished teak & holly
- Bulkheads and partitions – varnished teak
- Ceilings – padded vinyl & laminate
- Counters – tile in heads, laminate elsewhere
- Cushions – cloth skins
- Powered ventilation – none
- Natural ventilation – opening appliances
- Fixtures and appliances – serviceable

Comments:

- **Interior joinery and cosmetic finishes have light to moderate wear and tear and in some areas beneath and around portlights and windows more severe damage from nuisance type leaks**
- **Various light fixtures at a number of locations in lower cabin are damaged or inoperative**

Entertainment equipment

Condition/appearance: average Function: normal

Locations/descriptions:

- Aft stateroom – Toshiba 20” TV
- Main cabin – Sharp 31” TV (also serves as plotter display)
- Flybridge – Kenwood KMR-M308BT

Galley equipment

Condition/appearance: average Function: **normal (except as noted in summary remarks & notes)**

Locations/descriptions – Located in galley except as noted:

- GE Spacemaker II microwave
- Princess three burner electric range & oven

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- Single stainless sink
- Norcold refrigerator & freezer DE0061R
- Black & Decker coffeemaker
- 2 x GE chest type freezers
FCM5SUCWW

Sanitary system

Condition/appearance: average or better Function: normal (except as noted in summary remarks & notes)

Locations/descriptions:

- Quantity - two
- Manufacturer – Jabsco
- Type – 12 volt macerating marine toilets
- Vented loops (if required) – n/a
- Y-valves (direct overboard discharge) – head vanities

Air-conditioning

Condition/appearance: average Function: normal

Locations/descriptions:

- Quantity - four
- Manufacturer – Marine Air Systems
- Type – self-contained & split system heat pumps
- Controls – knob type in main cabin, digital elsewhere
- Equipment – forward berth, dinette seat base, flybridge and aft stateroom closet
- Cooling pump – forward engine room centerline/120 volt centrifugal
- Test performed – all units operated cool programs (**ambient temperatures too high to evaluate heat programs**)

TANKS, PIPING AND RELATED

(Capacities listed in this section are based upon published specifications for this model unless stated otherwise)

Fuel

Found the following to be in above average condition without evidence of leakage to level filled (25%) where accessible for inspection:

- Tanks – 600 gallons capacity contained in two fiberglass tanks secured outboard sides of the engine room
- Fills – port and stbd side decks amidships
- Vents – hull sides
- Plumbing materials – copper tubing between tanks, filters and engines flex hoses at engines
- Shut-off valves – forward engine room bulkhead/manifold
- Filters – forward engine room bulkhead:
 - Main engines – Racor 900 each engine
 - AC generator – Racor 500
- Level gauges – lower helm console

Potable water

Found the following to be in average condition without significant corrosion or evidence of leakage to level filled (30%) where accessible for inspection:

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- Tanks – 300 gallons capacity contained in two stainless tanks secured in aft berth (bladder tanks in each lower cabin bilge port side unknown capacity)
- Fills – port and stbd side decks amidships
- Vents – hull sides
- Plumbing materials – copper tubing and flexible hose
- Shut-off valves – tank outlets and engine room
- Filters – not found
- Pressure pump – forward engine room bulkhead/West Marine 50 psi
- Accumulator tank – forward engine room bulkhead
- Water heater – forward engine room stbd side/US Craftmaster 19 gallons, 120 volts and engine heated
- Dock water inlet – stbd side of pilothouse
- Level gauges – sight gauges on tanks

Waste

Found the following to be in average condition without evidence of leakage to level filled (unknown) where accessible for inspection:

- Tanks – 30 gallons capacity contained in one fiberglass tank secured in forward lower cabin bilge
- Deck fitting – stbd side deck amidships
- Vents – hull sides
- Plumbing materials – black rubber and PVC hose
- Y-valves – none
- Overboard valve – galley bilge
- Discharge pump – galley bilge/Jabsco 12 volt diaphragm type
- Vented loop (if required) – n/a
- Treatment device – none
- Level gauges – lower helm console

ENGINES, AND ENGINE AND VESSEL CONTROLS

Engines

Condition/appearance: average or better Function: **normal (except as noted in summary remarks & notes)** Damage or abuse: none noted

- Type/description – 636 cubic inch V8 turbocharged diesels equipped with close coupled straight-drive marine transmissions
- Location - amidships
- Cooling system – closed loop freshwater with raw water cooled heat exchanger
- Mounting:
 - Foundations – hull stringers
 - Beds – four each welded steel brackets
 - Mounts – adjustable vibration isolator type
- Cleanliness – average or better
- Fluid levels and condition – **visual inspection and lab analysis indicated lube oils in engines, transmissions and AC generator are in good condition and without abnormal contamination:**
 - Engine oil – full/normal
 - Engine coolant – full/normal
 - Transmission oil – full/normal

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- Accessibility – good

Exhaust systems

Condition/appearance: average or better Function: normal Damage or abuse: none noted

- Exhaust manifolds – freshwater cooled cast iron
- Risers – insulated stainless with raw water sprayed discharge
- Exhaust fittings – n/a
- Muffler – not sighted
- Exhaust outlet – outboard sides of transom/stainless thru-hull
- Straight runs – black rubber hose
- Connecting hoses – black rubber hose
- Hose clamps – double stainless at each connection point

Engine ventilation

Condition/appearance: average Function: normal

Location & type:

- Natural – hull side vents amidships
- Powered – DC blowers

Engine controls

Condition/appearance: average Function/ease of operation: normal

- Manufacturer/model - Morse
- Description – dual lever type sleeved cable manual system
- Locations – upper & lower helms
- Neutral safety interlock (prevents starting in gear) – **none**

Engine instrumentation

Condition/appearance: average or better Function: normal

- Manufacturer - VDO
- Type – analog electric
- Locations:
 - Lower helm – RPMs, oil pressure, drive oil pressure, temperature, volts & fuel
 - Upper helm – RPMs, hours, oil pressure, drive oil pressure, temperature & volts
- Alarms - audible

Steering

Condition/appearance: average Function/ease of operation: **normal (except as noted below)**

- Manufacturer/model - Hynautic
- Description – wheel type manual hydraulic
- Locations – upper & lower helms
- Reservoir – stbd side of flybridge console

Comments:

- **Steering turned to stbd with less effort than to port but functioned normally**

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EQUIPMENT

Pumps dewatering and utility

Condition/appearance: average Function: normal

Type & location:

- Forward lower cabin bilge:
 - Dewatering/Rule 3700 gph
 - Shower sump/500 gph centrifugal in plastic box
- Forward engine centerline – dewatering/Rule 2000 gph
- Aft stateroom – shower sump/Rule 800 gph in plastic box
- Aft berth – dewatering/Rule-Mate 2000 gph (**manual function tested**)

Rigging utility

Condition/appearance: average Anchoring: securely fastened Bedding: appeared adequate

Type & location:

- Tender crane – upper deck stbd side/fixed stainless boom with swiveling base and 12 volt winch

Windlass

Condition/appearance: fair Function: inoperative

Locations/descriptions:

- Manufacturer/model – Maxwell Nilsson
- Type – 12 volt vertical with wildcat & warping head
- Service disconnect – aft stateroom stbd hanging locker
- Overcurrent protection – aft stateroom stbd hanging locker (breaker)
- Test performed – **inoperative**

Accessories

Condition/appearance: average Function: appeared serviceable

Description:

- Bow rail – stainless fender holders
- Forward engine room bulkhead port side – Oil X-Change-R system

ELECTRICAL SYSTEMS

Galvanic corrosion protection

Condition/appearance: average Serviceable: yes

Descriptions:

- Anodes (zinc unless noted otherwise) – propeller shafts, rudders, trim tabs x 2 & transom x 2
- Bonding system - yes
- Isolators/transformers – not found

AC electrical system

Condition/appearance: average Function: normal

Locations & descriptions of significant components and features:

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- Voltage – 240 & 120 volt inlets; 120 volt system
- Inlet locations:
 - Stbd side of pilothouse – 1 x 50 amps (240 volts)
 - Port side of pilothouse – 2 x 30 amps (120 volts)
- Inlet circuit protection – adjacent to stbd inlet and main panel
- Main panel:
 - Location – aft end of main cabin stbd side
 - Instrumentation – volt & amp meters
 - Selector switches – toggle with sliding interlock
 - Reverse polarity indicator - yes
- Tests and examinations:
 - Shoreline electrical test - normal
 - Generator electrical test - normal
 - Inverter electrical test - normal
 - AC/DC connection - yes
 - Condition of shore cord – fair to average
 - Condition of shore cord inlet – fair to average

DC electrical system

Condition/appearance: average Function: normal

Locations & descriptions of significant components:

- Voltage - 12
- Panel locations – aft end of main cabin stbd side
- Panel instrumentation – volt & amp meters
- Branch circuit protection - breakers
- Primary circuit protection – main panel

Alternating current generators

Condition/appearance: average Function: normal Damage or abuse: none noted

Description:

- Type – four cylinders naturally aspirated diesel equipped with close coupled AC generator end
- Location – forward engine room port side
- Accessories – drip pan, sound shield & remote starting
- Circuit protection:
 - Generator – yes
 - Main panel – yes
- Fuel, exhaust, cooling water and electrical connections – serviceable
- Vented loop (may be necessary for deep draft installation) – n/a

Battery charging devices

Condition/appearance: average Function: normal Damage or abuse: none noted

Locations/descriptions:

- AC electric:
 - See inverter section that follows
 - Aft engine room bulkhead port side/Dytek VHD-12-40A
- Alternators – main engines

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- Renewable – none

Inverters

Condition/appearance: average Function: normal

Locations/descriptions:

- Make/model – Heart Interface Freedom Marine 20
- Output – AC/2000 watts; DC/100 amps
- Disconnect – **not found**
- Overcurrent protection – fusible link adjacent to inverter
- Panel marked – inverter control on panel

Storage batteries

Condition/appearance: average Function: normal Damage or abuse: none noted

- Batteries – lead acid wet cells secured in covered boxes located as follows:
 - Inverter – forward engine room stbd side/8D
 - Main engine cranking & house – aft engine room/2 x 8D
 - AC generator – forward engine room port side/Group 31
- Disconnects – aft engine room bulkhead and main DC panel

Battery disconnects or primary circuit protection for high amperage DC systems such as engine & AC generator cranking, windlasses, capstans, bow & stern thrusters and davits should be toggled off when not in use to prevent them from energizing unexpectedly due to failed components or short circuits that can lead to equipment damage or fire while vessel is not in use or unattended

ELECTRONICS AND NAVIGATION EQUIPMENT

Condition/appearance: average Function: normal (except as noted in summary remarks & notes)

- Lower helm:
 - Ritchie digital compass
 - Raymarine plotter, sounder, radar control panel
 - Simrad AP24 autopilot
 - Standard Horizon Eclipse DSC VHF
 - Lower helm console - autopilot pump
- Upper helm:
 - Raymarine E80 plotter, sounder, radar
 - Standard Horizon Eclipse DSC VHF
 - Raymarine ST60+ digital depth
 - Simrad AP24 autopilot
 - Plastimo magnetic compass

SAFETY EQUIPMENT

(Items in this section should be considered serviceable unless noted otherwise)

Fire safety equipment

- Fixed - none
- Fixed fire system manual activator – n/a
- Portable – USCG Size AIIBCI located as follows:
 - Galley
 - Main cabin
 - Aft stateroom

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Gas detection systems

- CO – each stateroom & main cabin
- Smoke – each stateroom & main cabin

Emergency bilge pumps and high water alarms

- Dewatering pumps – vessel is fitted with multiple electric pumps and manual diaphragm type in forward head
- Audible alarms – **not found**

Signaling devices

- Flares – **not found**
- Hull mounted sound - yes
- Handheld sound – not found
- Epirb – not found

Navigation lights

- Side – flybridge sides
- Mast head – top of spoiler
- Stern - transom
- Anchoring – top of spoiler

Flotation devices

- Lifejackets – USCG Types located in port side of flybridge:
 - 4 x Type III adult
 - 2 x Type I adult
- Throwables – aft deck/horseshoe type
- Liferafts – port side flybridge console

Ground tackle

Condition/appearance: average Function: appears adequate for intended use

Locations/descriptions:

- Primary anchor – plow type all chain rode
- Back-up anchor – forward berth (**rode not sighted**)

Additional required (non-safety)

- Pollution placards (Vessels 26 feet and over with a machinery compartment) – aft engine room bulkhead
- Marpol Trash Placard (Vessels 26 feet and over) – galley cabinet
- Written trash disposal plan (Vessels 40 feet and over) – **not found**
- Navigation rules (Vessels 39.4 feet and over) – **not found**
- Vessel identification locations:
 - **HIN – not found**
 - Documentation # - lower cabin overhead by galley
 - Name – flybridge sides and transom

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SUMMARY REMARKS AND NOTES

Items on the following lists are grouped in several categories according to the source of their advice. Items in bold face are also listed in the Recommendations section at the beginning of this report and should be addressed on a priority basis. The remaining items on the lists that follow will likely not interfere with the safe and reliable function of the vessel but may improve its utility and/or convenience.

REGULATORY AND/OR STATUTORY DEFICIENCIES

Items on this list may not affect vessel safety but if ignored may result in fines and/or penalties:

1. Vessel has proper quantities of USCG required portable handheld fire extinguishers; suggest installation of additional fire extinguishers in engine room and at flybridge.
2. **Put aboard at least three unexpired USCG approved day/night visual distress signals.**
3. Put aboard the following as required by Code of Federal Regulations:
 - a. Written Trash Disposal Plan (<http://www.gladdingmarinesurvey.com/pdf/uscgwaste.pdf>)
 - b. Copy of Navigation Rules
4. Hull ID number is missing from upper stbd transom corner; replace with new.

STANDARDS DEFICIENCIES

ABYC Standards and Technical Information Reports are advisory only; their use is entirely voluntary. They are guides to achieving a specific level of design or performance, and are not intended to preclude attainment of desired results by other means:

5. **Stainless ladder on swim platform should be secured in a way it can be deployed by passengers who may find themselves in the water unexpectedly so they may reboard unassisted.**
6. **Forward two hose clamps on both propeller shaft packing gland hoses have significant corrosion; replace with new.**
7. **Stbd propeller shaft packing gland leaks lightly continuously while underway; service as necessary to insure it leaks only a drop every few seconds.**
8. Leaking propeller shaft packing glands tend to sling water on surrounding materials and metals; suggest installing spray shields over both.
9. Propeller shaft bearings are at or near the end of their useful life; replace with new (may require realignment of struts and engines).
10. **Aft toilet overboard discharge seacock in aft head vanity could not be moved applying reasonable pressure; service as necessary to restore its normal function.**
11. **Tender crane winch wire has fish hooks, is overwrapped and flattened; replace with new.**
12. Install galvanic isolator on shore power system to provide measure of protection against galvanic and stray current corrosion while shore power is in use.
13. **240 volt Shore power inlet fitting socket is loose in fitting; refasten as necessary.**
14. **Battery voltage measured 12.4 while underway using main engines alternators as charging source and jumped to over 13 volts when inverter charger was activated indicating engines alternators are producing little to no charging current; troubleshoot and repair main engines alternators as necessary to restore their normal function.**
15. **DC to AC inverter has no service disconnect; install switch that provides quick convenient means to disconnect it from batteries when necessary using ABYC E-11 for guidance.**
16. Terminals on battery aft of port main engine are corroded; clean and service terminals to insure reliable battery function.

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17. AC generator is not fitted with service disconnect for its cranking battery; install switch that provides quick convenient means to disconnect it from batteries when necessary using ABYC E-11 for guidance.
18. **Install audible alarm system that sounds when excess water is present in bilges.**

SUGGESTED REPAIRS AND/OR CHANGES

Items based upon surveyor's observations or experience that may improve the vessel's reliability, utility or longevity:

19. Hull side portlight gaskets are at the end of their useful service life; replace gaskets with new, water test fixtures and service if necessary to insure leak free function.
20. Trim tabs do not appear to provide any useful function operating vessel; suggest removal of system from hull.
21. Several underwater thru-hull fittings are abandoned in place; suggest removing all that will not remain in service and patching holes in hull.
22. Toilets discharges are fitted with Y-valves and direct overboard discharge thru-hulls; suggest rerouting discharges directly to holding tank and removing all unused plumbing, fittings and thru-hulls if vessel will not be operated more than three miles offshore.
23. Forward galley convenience outlet is loose in bulkhead; refasten as necessary.
24. Teak grate in forward shower is broken away from its outer frame; repair as necessary.
25. Galley range forward burner knobs are stiff and do not work normally; service as necessary to restore their normal function.
26. Forward toilet rinse water is inoperative; service as necessary and prove its normal function.
27. Aft toilet drains slowly; service as necessary to restore its normal function.
28. AC generator fuel filter bowl has small accumulation of debris in bottom; drain bowl and clean during next filter service.
29. Waste tank level gauge installed at lower helm console did not light up; prove its function.
30. **Stbd main engine is ticking lightly and makes a huffing sound in inlet; employ a qualified technician to evaluate if engine requires adjustment or service to insure its reliable function (engine performed well and reached its maximum rated rpms during trial run).**
31. Attend to the following on the port main engine:
 - a. Transmission cooler has oozing leaks; service as necessary.
 - b. Raw water pump bearing was making rubbing sound; monitor condition, service or replace pump if it gives indications it is failing.
 - c. Coolant recovery tank is loose from engine; refasten as necessary.
 - d. Transmission oil pressure sender connection is loose; refasten as necessary.
32. Shower sump pump in aft lower cabin bilge sprays water straight up onto underside of sole through pump vent hole when running; install cover over hole to deflect water directly back to shower sump box.
33. Tender crane boom pulley pin is secured with split ring that is damaged; replace split ring with cotter pin to insure pulley remains securely in place.
34. **Anchor windlass is inoperative; service as necessary to restore its normal function.**
35. AC generator sound shield is partially removed; reinstall as necessary.
36. Color depth sounder display came up on lower helm system but did not record depth; service as necessary to restore its normal function.

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- 37. VHF at lower helm would not play weather and could not raise automated radio check channel; service as necessary to restore its normal function.
- 38. Put aboard rode to use with back-up anchor in forward berth in event primary becomes fouled in anchor locker or additional holding power is required or desired.
- 39. Install line between bitter end of anchor chain and hull attachment point with enough length so it is exposed at exterior of rope locker when rode is fully extended where it can easily be parted with a knife in the event of an emergency.

(End of report photo pages to follow)

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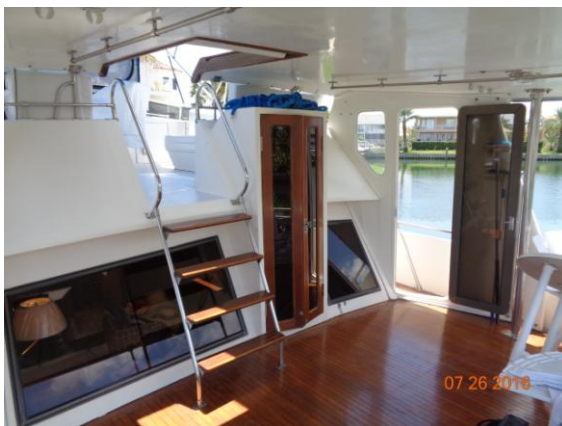
PHOTOS



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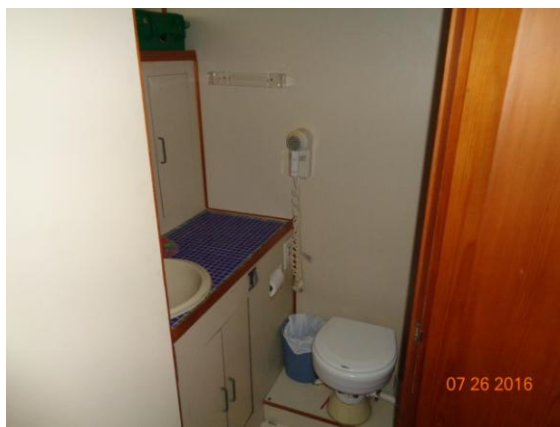
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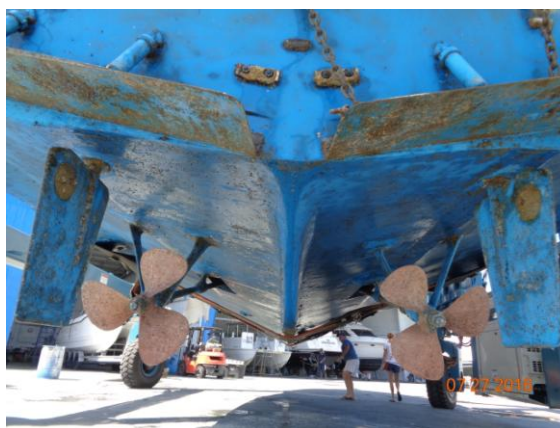
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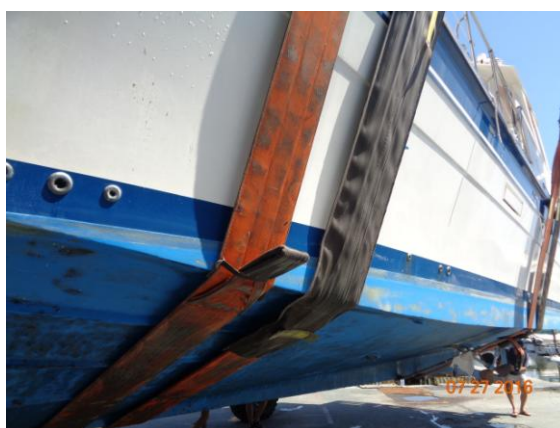
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