

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 NAME: xxxxxxx

Prepared by: Bill Gladding AMS® #810

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GENERAL INFORMATION

SURVEY PURPOSE: prepurchase

FILE #: 2017-05-26 Tiara 4200 Open 2003

REQUESTED BY: xxxxxxxxxx

REPORT DATE: May 28, 2017

CLIENT INFORMATION: xxxxxxxxxx

OWNER INFORMATION: xxxxxxxxxx

SURVEY DATE: May 26, 20xx

SURVEY LOCATION: xxxxxxxxxx

ATTENDING: xxxxxxxxxx

ENGINE SURVEYOR: basic external checks and oil analysis by hull surveyor

VESSEL & MACHINERY DATA

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

Hull ID #: SSURxxxxL203 Documentation #: xxxxxxx Hailing Port: xxxxxxxxxx, FL

Vessel type and dimensions (taken from vessel owners manual)

Manufacturer: Tiara Yachts Model: 4200 Open Model year: 2003 Length: 44'10" Beam: 14'11"

Draft: 4'2" Weight: 28,000 lbs Hull composition: fiberglass

Engines (sighted aboard)

Type and #: twin inboard Horsepower: 700@2,300 rpms Fuel type: diesel Manufacturer: Caterpillar

Model: C-12 Serial #: port (9HP00xxx), stbd (9HP00xxx) Hours: port (929.5), stbd (1,092.8)

Transmissions (sighted aboard)

Manufacturer: Twin Disc Model: MG5090 (or similar) Ratio: 1.73

Serial #: port (5HKxxx), stbd (5HKxxx)

Alternating Current Generator (sighted aboard)

Manufacturer: Kohler Model: 8EOZ KW: 8.0 Fuel type: diesel Serial #: 0751xxx Hours: 2,081.4

RECOMMENDATIONS

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

1. **Portable handheld fire extinguishers have exceeded their useful service life; replace with new (helm seat base, locker lower cabin aft bulkhead port side and forward stateroom hanging locker).**
2. **One of two hose clamps is broken on cockpit stbd scupper drain system aft scupper lower connection; replace broken clamp with new.**
3. **Sections of gaskets are missing around fish boxes on hatch gutters; replace with new to limit downflooding to hull interior when deck is awash with rain or seawater.**
4. **Port propeller shaft PSS® dripless seal leaked steadily while running at planing speeds; service or replace as necessary to restore its normal dripless function.**
5. **Dewatering bilge pump in engine room makes grinding noise when it runs and float switch does not shut-off after bilge is emptied; replace pump with new, service or replace float switch as necessary to insure its reliable function.**
6. **Install level switches in bilges that sound audible alarm when excess water is present.**

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

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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: warm coastal waters of the USA and Caribbean Islands

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

VALUATION

Subject vessel was found to be in overall above average condition. Recent sales history, current listings and pricing guides found on May 28, 2017 to use as comparison make a market approach a reliable means for establishing its value. Based upon analysis of the data below it is the opinion of the undersigned the following values should apply:

Current value: \$xxxxxxx Replacement cost: \$728,000 (Bucvalupro.com)

Pricing guides

2017 Powerboat Guide.....\$181,000 to \$232,000

Abos.com..... \$156,000 to \$196,000

Bucvalupro.....\$216,000 to \$237,000

NADAguides.com.....\$174,000 to \$197,200

(Options not added to guide values unless noted otherwise)

Current listings

Yachtworld.com.....\$297,500 to \$379,000

(6 results – searched 2002 to 2004 models in the USA)

Reported sales

Soldboats.com.....\$237,500 to \$347,500

(8 results – searched May 2015 to present)

Valuation based upon depreciated replacement cost

\$728,000 depreciated at 6% annually..... \$306,141

(Depreciation schedule derived from comparison to reported sales soldboats.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

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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 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
- Flir® One Android infrared camera
- 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

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VESSEL GENERAL DESCRIPTIONS

Exterior arrangement – express type noted the following:

- Hull – V-bottomed planing type with prop pockets, lifting strakes and hard chines; stem is raked forward and hull sides outward at bow; curved sheer slopes downward to amidships then continues level to the stern; transom is full height with reverse rake and bolted on molded fiberglass swim platform
- Decks and superstructure – flush main deck from the bow aft around the helm and cockpit; helm and cockpit are recessed with upper level forward over the engine compartment; superstructure consists of low profile trunk cabin forward followed by helm coaming and windshield; helm area is shaded beneath composite hard-top supported on welded aluminum frame

Interior arrangement – single level with private stateroom and separate head enclosure noted the following:

- Staterooms – one forward (main cabin settee converts to bunk beds)
- Heads – stbd side of lower cabin
- Galley – lower cabin aft stbd side
- Dinette – lower cabin aft port side
- Saloon – lower cabin
- Helm – stbd side of cockpit upper level
- Other – large lazarette

Structural elements

- Hull skin material and type cosmetic finish – molded fiberglass with balsa cored sides painted cosmetic finish
- Hull grid system layout and materials – four continuous fiberglass stringers various transverse supports between
- Hull deck joint – overlapping flanges mechanically fastened
- Continuous transverse bulkheads locations and materials – fiberglassed plywood at anchor locker, each end of engine room and lazarette
- Decks and superstructure materials and type cosmetic finish – solid and balsa cored molded fiberglass gelcoat cosmetic finish

SURVEY FINDINGS

UPGRADES/REBUILDS

Vessel remains as originally constructed without significant changes

TRIAL RUN

- Location – St. Johns and Ortega Rivers between Huckins Yacht Corporation and I-295 Bridge
- Duration – approximately 1 ½ hours
- Number of passengers – five
- Tanks levels:
 - Fuel – 75%
 - Water – 75%
 - Waste – <10%
- Hull performance – top speed in excess of 34 knots is consistent with specifications published in the 2017 Powerboat Guide

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- Engine performance:
 - Wide open throttle rpms – port (2,296), stbd (2,313)
 - Single engine wide open rpms – both engines reached between 1,200 and 1,300 rpms
 - Temperatures and pressures – remained normal at all operating speeds
- AC generator performance:
 - Voltage and frequency - normal
 - Loads applied – air-conditioners, refrigerators and other intermittent loads
- Comments – vessel performed well in all respects

HULL ABOVE WATERLINE AND RELATED

Structural elements

Condition: above average

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

Topsides

Structural condition: above 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; 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

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 (PVC & stainless)
- Swim platform – molded fiberglass bolted on transom
- Permanently installed means for reboarding – folding stainless

Deck drain systems

Primary drainage system: main deck (directly overboard)

Other drainage systems: scuppers Condition: average or better

Weather decks with in-hull drain systems: cockpit deck and cockpit hatch gutters

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: above average

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

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Cosmetic condition: average or better

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

Exterior soft goods

Condition/appearance: above average Wear & tear: light Serviceable: yes

Location & type (installed at time of survey):

- Helm enclosure (vinyl & Eisenglass)
- Helm & cockpit cushions (vinyl skins)

Exterior hardware

Condition/appearance: above average Anchoring & bedding: appeared adequate

Location & type:

- Main deck safety rail (welded stainless)
- Hand rails (powder coated stainless & aluminum)
- Hard-top (molded fiberglass supported on welded aluminum frame)

Tie-up gear

Condition/appearance: above average Anchoring & bedding: appeared adequate

Location & type:

- Foredeck & amidships (7 x stainless fixed mooring cleats)
- Cockpit (2 x stainless fixed mooring cleats & hawses)

Anchoring gear

Condition/appearance: above average Function: normal

Locations/descriptions:

- Anchor pulpit – integral molded fiberglass
- Chute(s) – single stainless with plastic roller

Glazing materials

Condition/appearance: average or better Function: normal Gaskets and seals: appeared serviceable

Location & type:

- Helm area – fixed windshield with motorized vent (molded fiberglass & glass)

Exterior hatches, portlights and doors

Condition/appearance: average or better Function: normal Gaskets and seals: appeared serviceable

Location & type:

- **Secondary egress (escape) – trunk cabin top**
- Companionway/main entrance – sliding type (molded fiberglass & plastic)
- Foredeck, helm area & cockpit – hinged locker lids & hatches (molded fiberglass)
- Trunk cabin top & hard-top – hinged deck hatches (aluminum & plastic)
- Transom stbd side – hinged gate (molded fiberglass)

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HULL BELOW WATERLINE AND RELATED

Hull below the waterline

Structural condition: above 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: above 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

Underwater gear

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

- Propellers – 27" x 37.5" four bladed bronze alloy
- Shafting – 2 1/2" stainless
- Shaft support – single bronze I-type each side
- Bearings – rubber Cutless® type
- Shaft log – integral fiberglass bronze thru-hull
- Shaft seal – PSS® self-aligning dripless type
- Fasteners – appeared secure

Comments:

- **Port propeller shaft very snug in bearing**

Rudders & linkages

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

- Rudder description – cast bronze spade stainless stock
- Thru-hull seal – fixed bronze packing glands
- Supports – composite channel & bronze bearing
- Linkages – bronze tillers, stainless swivels and tie-bar
- Steering components – bronze hydraulic cylinder
- Emergency tiller – n/a

Trim tabs

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

- Manufacturer – Bennett Marine
- Type – 12 volt electric hydraulic
- Controls – dual rocker switches
- Pump - lazarette
- Planes – 18"w x 15"l recessed hinged stainless
- Test performed – vessel trim and running angle adjusted while underway

Thru-hulls, seacocks, transducers

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

- Underwater – Threaded bronze fitted with 1/4 turn valves, bonded with stainless clamps on hoses connections at the following bilge locations:

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- Forward engine room centerline – **main engines and air-conditioner inlets**
- Aft of stbd main engine – **AC generator inlet**
- Port side of lazarette – **waste tank overboard discharge**
- Lazarette centerline – **raw water and livewell inlets, garboard drain plug**
- Topsides – threaded plastic
- Transducers – appeared 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 above average condition and working order. Interior décor was found to be in overall above average condition with less than average wear and tear descriptions as follows:

- Doors – hinged varnished teak
- Decks – varnished teak and holly
- Cabinetry – varnished teak
- Bulkheads and partitions – varnished teak
- Ceilings – padded vinyl
- Counters – cut composite
- Cushions – vinyl skins
- Natural ventilation – opening appliances
- Powered ventilation – head enclosure
- Fixtures and appliances – serviceable

Entertainment equipment

Condition/appearance: average or better Function: normal

Locations/descriptions:

- Forward stateroom – TV (Sharp 13")
- Main cabin:
 - TV (Panasonic 22")
 - Stereo (Bose system)
- Helm:
 - Stereo (Clarion)
 - Sirius (Kenwood)

Galley equipment

Condition/appearance: above average Function: normal

Locations/descriptions – Located in galley except as noted:

- Range (Force 10 two burner glass top)
- Sink (double stainless)
- Coffeemaker (Black & Decker)
- Microwave (Panasonic NNT-888S)
- Refrigerator (Sub-Zero 249RP)
- Freezer/icemaker (Sub-Zero 249FFI)
- Helm – icemaker (Raritan Icer-ette)
- Cockpit – freezer (built-in cold plate system)

Sanitary system

Condition/appearance: above average Function: normal

Locations/descriptions:

- Quantity - one
- Manufacturer – Sealand Vacuflush
- Type – 12 volt vacuum flush freshwater rinse
- Vented loops (if required) – n/a
- Y-valves (direct overboard discharge) – none

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Air-conditioning

Condition/appearance: average or better Function: normal

Locations/descriptions:

- Quantity - two
- Manufacturer – Marine Air Systems
- Type – remote mounted heat pump
- Controls – digital (forward stateroom and main cabin)
- Equipment – outboard of port main engine (2 x condensing units)
- Cooling pump – forward engine room centerline (120 volt centrifugal)
- Test performed – both units operated heat and cool programs

TANKS, PUMPS, 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 (75%) where accessible for inspection:

- Tanks – 520 gallons capacity contained in two fiberglass tanks secured in cockpit bilge
- Fills – cockpit gunwales port and stbd sides
- Vents – hull sides
- Plumbing materials – USCG Type-A hose
- Shut-off valves – tank outlets and engine room aft bulkhead
- Filters:
 - Main engines – engine room aft stbd side (Racor 1000 each engine)
 - AC generator – engine room aft bulkhead centerline (Racor S3240TUL)
- Level gauges – helm stbd side

Potable water

Found the following to be in above average condition without significant corrosion or evidence of leakage to level filled (75%) where accessible for inspection:

- Tanks – 130 gallons capacity contained in one stainless tank secured in lower cabin bilge aft end
- Fills – port side deck amidships
- Vents – hull side
- Plumbing materials – plastic tubing
- Shut-off valves – not found
- Filters – galley bilge
- Pressure pump – galley bilge (Jabsco & Shurflo quad diaphragm types)
- Accumulator tank – not found
- Water heater – outboard of port main engine
- Dock water inlet – cockpit port side
- Level gauges – main electric panel

Waste

Found the following to be in above average condition without significant corrosion or evidence of leakage to level filled (<10%) where accessible for inspection:

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- Tanks – 50 gallons capacity contained in one aluminum tank secured in middle of lower cabin bilge
- Deck fitting – stbd side deck amidships
- Vents – hull side
- Plumbing materials – plastic tubing
- Y-valves – lower cabin bilge (toggles tank discharge between deck fitting and overboard)
- Overboard valve – lazarette port side
- Discharge pump – outboard of port main engine (Sealand diaphragm type)
- Vented loop (if required) – n/a
- Treatment device – none
- Level gauges – main electric panel

ENGINES, AND ENGINE AND VESSEL CONTROLS

Engines

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

- Type/description – inline six cylinders turbocharged aftercooled diesels equipped
 - Mounts – adjustable vibration isolator type
- Power transmission – straight-drive down angle hydraulic transmissions
- Location - amidships
- Cooling system – closed loop freshwater with raw water cooled heat exchanger
- Mounting:
 - Foundations & beds – hull stringers
- Cleanliness – above average
- Fluid levels and condition – based upon visual inspection:
 - Engine oil – full(normal)
 - Engine coolant – full (normal)
 - Transmission oil – full (normal)
- Accessibility – outboard sides difficult access with main hatch down

Comments:

- **Engines turned very near their maximum rated rpms and with additional run time rpms may increase further. 2,350 to 2,375 at wide open throttle would be more desirable to insure engines are not overloaded during operation at higher speeds**

Exhaust systems

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

- Exhaust manifolds – freshwater cooled cast iron
- Risers – insulated stainless raw water sprayed discharge
- Exhaust fittings – n/a
- Muffler – can shaped fiberglass
- Exhaust outlet – outboard sides of transom (integral fiberglass)
- Straight runs – fiberglass pipe
- Connecting hoses – blue silicon and black rubber
- Hose connection clamps – double stainless at each connection point

Engine ventilation

Condition/appearance: average or better Function: normal

Location & type:

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

Engine controls

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

- Manufacturer/model - Glendinning
- Description – single lever electronic
- Locations - helm
- Neutral safety interlock (prevents starting in gear) – yes

Comments:

- **Low speed idle and synchronizer functions operated during trial-run**

Engine instrumentation

Condition/appearance: above average Function: normal

- Manufacturer – Caterpillar
- Type – digital data displays
- Locations – helm console
- Alarms - yes

Steering

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

- Manufacturer/model – Teleflex Seastar
- Description – wheel type manual hydraulic
- Locations – helm
- Reservoir – integral to helm unit

EQUIPMENT

Pumps dewatering and utility

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

Bile location, type & description:

- Lower cabin:
 - Dewatering (Attwood 2000 gph)
 - Shower sump (Rule 500 gph in plastic box)
- Engine room forward centerline (Attwood 2000 gph)
- Lazarette:
 - Dewatering (Attwood 2000 gph)
 - Fish box drain pump (12 volt macerator)
 - Livewell pump (12 volt centrifugal)
 - Raw water washdown (12 volt quad diaphragm type)

Windlass

Condition/appearance: above average Function: normal

Descriptions (windlass located at foredeck unless noted otherwise):

- Manufacturer/model – Maxwell 800
- Type – 12 volt vertical windlass
- Control locations – foredeck and helm
- Service disconnect – lower cabin stairs
- Overcurrent protection – breaker/disconnect
- Test performed – anchor lowered to water and back four to five times both control stations checked

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Accessories

Condition/appearance: above average Function: normal

Description & location:

- Electric helm seat
- 2 x folding deck chairs
- Reverso oil change system (engine room aft bulkhead)

ELECTRICAL SYSTEMS

Galvanic corrosion protection

Condition/appearance: above average Serviceable: yes

Descriptions & locations:

- Anodes (zinc unless noted otherwise) – propeller shafts & 2 x transom bar zincs
- Bonding system - serviceable
- Galvanic isolators – engine room aft bulkhead stbd side (2 x 50 amps)

AC electrical system

Condition/appearance: above average Function: normal

Locations & descriptions of significant components and features:

- Voltage – 240 & 120 inlets
- Inlet types & locations – 30 amps & 50 amps
- Inlet circuit protection – adjacent to each and main panel
- Main panel:
 - Location – lower cabin aft end port side and inside stairs
 - Instrumentation – volt and amp meters
 - Source selector switches – toggle with sliding interlock
- Reverse polarity indicator - yes
- Tests and examinations:
 - Shoreline output - normal
 - Generator output – normal
 - Inverter output – n/a
 - AC/DC grounding connection - yes
 - Condition of shore cord – above average
 - Condition of shore cord inlet – above average

DC electrical system

Condition/appearance: above average Function: normal

Locations & descriptions of significant components:

- Voltage - 12
- Panel locations – lower cabin stairs
- Panel instrumentation - none
- Branch circuit protection - breaker
- Primary circuit protection - breaker

Alternating current generators

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

Description:

- Engine type – three cylinders naturally aspirated diesel
- AC generator mounting – close coupled
- Location – engine room aft port side
- Circuit protection:
 - Generator – yes

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- Main panel – yes
- Accessories – drip pan, sound shield and remote starting and stopping
- Fuel, exhaust, cooling water and electrical connections – serviceable
- Vented loop (may be necessary for deep draft installation) - yes

Battery charging devices

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

Locations/descriptions:

- AC electric – engine room forward bulkhead port side (Charles Industries 93-12505SP-A)
- Alternators – main engines (Balmar 160 amps)
- Renewable – none

Storage batteries

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

- Batteries – maintenance free lead acid types secured in covered box in engine room centerline bilge:
 - House – 4 x Group 31 (Deka DC31DT)
 - Cranking – 4 x Group 31 (Interstate 31M-AGM)
- Disconnects – lower cabin stairs

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 or better Function: normal

- Magnetic compass (Ritchie Powerdamp)
- 2 x chart plotter, sounder, radar displays (Furuno systems)
- Remote control searchlight (ACR)
- Autopilot (Simrad AP11)
- VHF (Standard Horizon Spectrum+)
- 3 x windshield wipers
- Galley – VHF mic (Standard Horizon Ram)

SAFETY EQUIPMENT

(Items in this section should be considered compliant with applicable sections of Code of Federal Regulations and serviceable unless noted otherwise)

Fire safety equipment

- Fixed - (indicated fully charged)
- Fixed fire system manual activator – helm console
- Portable handheld USCG Approved Sizes located as follows – (all past their 12 year useful service life):
 - Helm seat base
 - Lower cabin locker aft bulkhead port side
 - Forward stateroom hanging locker

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Gas detection systems

- CO – forward stateroom and main cabin
- Smoke – forward stateroom and main cabin

Emergency bilge pumps and high water alarms

- Dewatering pumps – vessel is equipped with multiple pumps
- Audible alarms – not found

Signaling devices

- Flares – helm seat base (expiration July 2019)
- Hull mounted sound - yes
- Handheld sound – not found
- Epirb – not found

Navigation lights

- Side – helm coaming
- Mast head/anchoring – hard-top roof
- Stern - transom

Flotation devices

- Personal & throwable USCG Approved devices located as follows:
 - Helm seat base (6 x Type III adult)
 - Helm (Type IV cushion)
- Liferafts – not found

Ground tackle

Condition/appearance: average or better Function: appeared adequate for routine service

Locations/descriptions:

- Primary anchor – plow, chain lead & braided nylon rode (at ready)
- Back-up anchor – conventional, chain lead & laid nylon rode (fish box)

Additional required (non-safety)

- Pollution placards (Vessels 26 feet and over with a machinery compartment) – Underside of engine hatch
- Marpol Trash Placard (Vessels 26 feet and over) – not found
- 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 – upper stbd transom corner
 - Name - transom
 - Documentation # - engine room centerline

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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. **Portable handheld fire extinguishers have exceeded their useful service life; replace with new (helm seat base, locker lower cabin aft bulkhead port side and forward stateroom hanging locker).**
2. Put aboard the following as required by Code of Federal Regulations:
 - a. Marpol Trash Placard
 - b. Written Trash Disposal Plan (<http://www.gladdingmarinesurvey.com/pdf/uscgwaste.pdf>)
 - c. Copy of Navigation Rules

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:

3. **One of two hose clamps is broken on cockpit stbd scupper drain system aft scupper lower connection; replace broken clamp with new.**
4. **Sections of gaskets are missing around fish boxes on hatch gutters; replace with new to limit downflooding to hull interior when deck is awash with rain or seawater.**
5. **Port propeller shaft PSS® dripless seal leaked steadily while running at planing speeds; service or replace as necessary to restore its normal dripless function.**
6. **Dewatering bilge pump in engine room makes grinding noise when it runs and float switch does not shut-off after bilge is emptied; replace pump with new, service or replace float switch as necessary to insure its reliable function.**
7. **Install level switches in bilges that sound audible alarm when excess water is present.**

SUGGESTED REPAIRS AND/OR CHANGES

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

8. Cockpit windshield trim is loose on forward stbd corner; refasten as necessary.
9. Reboarding ladder hatch lid flipped up while underway; repair latch as necessary to insure it remains down tightly when closed.
10. Antifouling paint on hull below waterline is worn thin and has bare spots; recoat with new to provide protection against fouling from marine organisms.
11. Propeller shaft seal is type that is prone to emitting fine mist that can corrode surrounding metal components, deteriorate wood in vicinity and cause unsightly stains; suggest installation of plastic shield over seal to contain mist and direct it directly downward to bilge.
12. Fish box drain system leaks and pump is inoperative; service system as necessary to restore its normal function.

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13. Livewell pump is inoperative and raw water washdown pump runs but does not cycle off; service or replace pumps as necessary to restore their normal function.
14. AC generator is enclosed in a sound shield and very close to engine room aft bulkhead preventing adequate inspection of back side and ends; suggest removal of sound shield (permanently if acceptable), inspect generator completely and service if necessary.
15. Aft stbd of four wet cell batteries (black color case) was substantially warmer than other three; test batteries function, service or replace as necessary to insure their reliable function (vessel owners manual identifies batteries as house bank).
16. Cockpit courtesy light inoperative forward stbd side; service as necessary to restore its normal function.
17. Windshield wiper blades are worn; replace with new.
18. Remote control searchlight articulates but does not light up; service as necessary to restore its normal function.

(End of report photo pages to follow)

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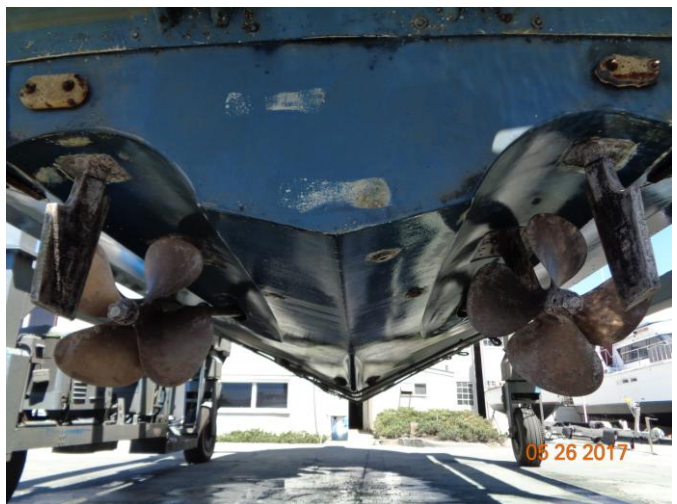
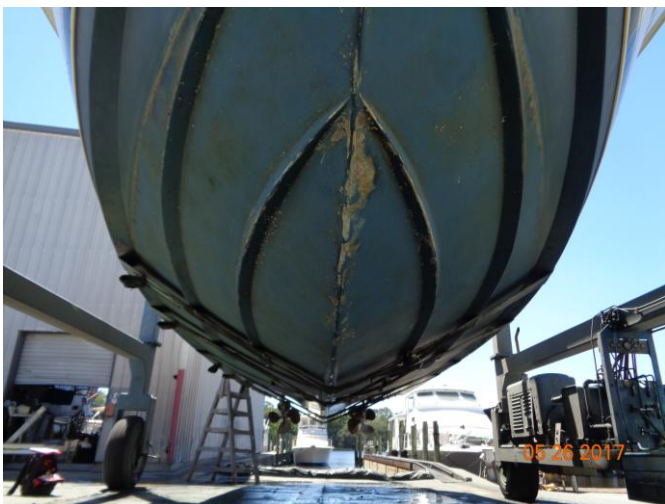
PHOTOS



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