SURVEY REPORT VESSEL NAME: xxxxxxxxxxx

Prepared by: Bill Gladding AMS® #810

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GENERAL INFORMATION

SURVEY PURPOSE: prepurchase
FILE #: 20xx-06-29 Hatteras 6300RPH 2001
REQUESTED BY: xxxxxxxxxx
REPORT DATE: July 1, 20xx

VEssel & MACHINERY DATA

Vessel identification numbers (sighted aboard, photos at end of report if found aboard)
Hull ID #: xxxxxxxxxx Documentation #: xxxxxxxx Hailing Port: xxxxxxxxxx, FL

Vessel type and dimensions (taken from Bucvalupro.com except as noted below)
Manufacturer: Hatteras Model: 6300 Raised Pilothouse Model year: 2001 Length: 63’0”
Beam: 18’3” Draft: 4’11” (verified during haul-out) Weight: 97,500 lbs (Travelift scale)
Hull composition: fiberglass

Engines (sighted aboard)
Type and #: twin inboard Horsepower: 1400@2,300 rpms Fuel type: diesel
Manufacturer: Caterpillar Model: 3412E Serial #: port (9K500xxx), stbd (9K500xxx)
Hours: port (1,723), stbd (1,751)

Transmissions (sighted aboard)
Manufacturer: ZF Model: BW-2555 Ratio: 3.45 Serial #: port (50006xxx), stbd (50006xxx)

Alternating Current Generator (sighted aboard)
Manufacturer: Onan Model: MKDAE41539C KW: 21.5 Fuel type: diesel Serial #: port (G000129xxx), stbd (G000129xxx) Hours: port (1,526), stbd (1,611)

TENDER DATA

Identification numbers
Hull ID #: PKDxxxxxF001 Registration #: xxxxxxxx Manufacturer: Novurania Model: 400DL
Model year: 2001 Length: 13’0” Beam: 5’10”

Engine
Type and #: single outboard Horsepower: 50 Fuel type: gas Manufacturer: Yamaha
Model: 50TLRZ Serial #: 422xxx

RECOMMENDATIONS

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

1. Fixed fire system is due for recertification; inspect and certify to insure its reliable function.
2. Portable handheld fire extinguishers at the following locations have exceeded their 12 year useful service life; replace with new:
   a. Pilothouse helm console interior
b. Forward stateroom hanging locker
c. Engine room forward centerline
d. Tender

3. Put aboard at least three unexpired USCG approved day/night visual distress signals or other type USCG Approved system that satisfies the requirement (certain battery powered beacons are now approved).

4. Mast lightning protection air terminal significantly blocks back ½ of mast head anchoring light; suggest modification of installation to insure proper 360 degree visibility of anchoring light with five degrees or less blocked by air terminal.

5. Back ½ of mast head anchoring light and stern running light are inoperative; service as necessary to restore their normal function.

6. Provide permanently installed means to allow unassisted reboarding by persons in the water using ABYC H-41, 41.9 for guidance (ladders, hand or foot holds or combinations thereof may be used to satisfy this requirement).

7. Testing of engine controls produced normal results at upper and lower helms but the following occurred while testing other locations; system should be serviced or repaired as necessary to insure its normal function:
   a. Cockpit maneuvering station – normal except that with both engines in gear stbd throttle controlled rpms both engines, advancing port throttle caused system to go offline.
   b. Manual control in lower helm console – stbd engine shifted normally, operating port engine control caused system to go offline and MMI-110 alarmed “check engine”.

8. Install CO monitors in areas of vessel interior where passengers will be sleeping; suggest the following locations:
   a. Owners stateroom
   b. Lower cabin companionway
   c. Saloon in vicinity of galley

9. High water alarm does not sound when lazarette level switch is raised; service as necessary to restore its normal function.

10. Lazarette dewatering bilge pump wiring is made with wire nuts; replace wire nuts with proper heat shrink waterproof connections to insure its reliable function.

11. Tender is not equipped with USCG required safety equipment; recommend putting aboard visual distress signals, lifejackets, throwable flotation device and handheld signaling device.

12. Tender battery strap is loose; refasten as necessary to insure battery remains securely in place.

(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: warm coastal waters of the USA & 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 with less than average wear and tear and low time on main engines and AC generators. Recent sales history, current listings and pricing guides found on June 30, 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:** $2,165,000 *(Bucvalupro.com)*

**Pricing guides**
- 2017 Powerboat Guide……………………………prices not given
- Abos.com………………………………………………model not listed
- Bucvalupro………………………………………………$514,000 to $564,500
- NADAguides.com……………………………………model not listed
  (Options not added to guide values unless noted otherwise)

**Current listings**
- Yachtworld.com………………………………………$825,000 to $1,050,000
  (5 results – searched 2000 to 2003 models worldwide)
- Reported sales
  - Soldboats.com………………………………………...$620,000 to $1,000,000
    (6 results – searched May 2014 to present)

**Valuation based upon depreciated replacement cost**
- $2,165,000 depreciated at 6.0% annually…………………$875,723
  (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 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

VESSEL GENERAL DESCRIPTIONS

Exterior arrangement – pilothouse motor yacht with flybridge noted the following:

- Hull – V-bottomed planing type with deep keel, prop pockets, lifting strakes and hard chines; stem is raked forward and hull sides outward at bow; relatively straight sheer slopes downward from bow to stern with reverse rake at transom; integral hollow swim platform with full height inner transom
- Decks and superstructure – flush main deck from the bow aft to the recessed stern cockpit via narrow walkways aft around the superstructure; superstructure consists of low profile trunk cabin followed by the pilothouse; main cabin is attached directly to pilothouse with sole at cockpit
deck level; flybridge begins above the pilothouse ending midway above the main cabin with upper deck that continues aft providing shade for the stern cockpit; flybridge has molded fiberglass hard-top

**Interior arrangement** – split level lower cabin in hull and beneath the pilothouse, pilothouse at main deck level, and main cabin at aft cockpit level noted the following:

- **Staterooms** – three in lower cabin
- **Heads** – three in lower cabin
- **Galley** – forward end of main cabin
- **Dining** – main cabin, pilothouse and flybridge
- **Saloon** – main cabin
- **Helm** – pilothouse & flybridge with steering, cockpit with controls for engines and bow thruster, manual controls inside pilothouse helm console
- **Other** – spacious engine room and lazarette

**Structural elements**

- **Hull skin material and type cosmetic finish** – molded cored fiberglass painted cosmetic finish (owner’s manual does not specify core material)
- **Hull grid system layout and materials** – four continuous molded fiberglass stringers tabbed to hull
- **Hull deck joint** – overlapping flanges mechanically fastened and fiberglassed
- **Continuous transverse bulkheads locations and materials** – fiberglassed composite at anchor locker and each end of engine room. Partial bulkheads and partitions between
- **Decks and superstructure materials and type cosmetic finish** – solid and cored molded fiberglass painted cosmetic finish

**SURVEY FINDINGS**

**UPGRADES/REBUILDS**

Vessel remains as originally constructed without significant changes

**TRIAL RUN**

- **Location** – ICW and Atlantic Ocean in vicinity of Vero Beach and Ft. Pierce Florida
- **Conditions** – calm on ICW approximately two to three foot ground swell in Atlantic Ocean
- **Duration** – approximately four hours
- **Number of passengers** – five
- **Tanks levels:**
  - **Fuel** – 600 to 700 gallons
  - **Water** – 250 gallons
  - **Waste** – empty
  - **Gray water** – n/a
- **Hull performance** – vessel performed well cruising comfortably 21.5 knots at 1750 rpms reaching 29.5 knots at 2,325 rpms
- **Engine performance:**
  - **Wide open throttle rpms** – 2,325
  - **Temperatures and pressures** – refer to engine surveyor’s report for specific details (none abnormal observed during trial-run)
- **AC generator performance:**
  - **Voltage and frequency** - normal
Loads applied – normal house loads including all air-conditioners

• Comments – vessel performed well without vibration, leakage or other signs of distress

**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: above average

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: above average

• Guards – sheer and hull sides aft (integral fiberglass with stainless striker)
• Swim platform – integral hollow
• Permanently installed means for reboarding – not found

**Deck drain systems**

Primary drainage system: direct overboard

Other drainage systems: scuppers  Condition: above average

Weather decks with in-hull drain systems: cockpit corners

_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

Cosmetic condition: above average

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:
• Painted cosmetic finish on stbd side of main cabin has very small bubbles that are only noticeable upon close inspection and paint missing around window that appears to have been pulled by tape or cleaning

**Exterior soft goods**

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

**Location & type (installed at time of survey):**

- Exterior covers for tenders, seats and sunpad (vinyl)
- Flybridge enclosure (vinyl, acrylic & Strataglass®)
- Flybridge sun shades (vinyl mesh)
- Exterior seat cushions and sunpad (vinyl skins)

**Comments:**

- Flybridge enclosure and sunshades are in new condition

**Exterior hardware**

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

**Location & type:**

- Flybridge hard-top (molded fiberglass shade resting on welded aluminum frame)
- Safety rails and handholds (welded stainless)
- Upper deck ladder (welded stainless with Starboard treads)

**Tie-up gear**

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

**Location & type:**

- Foredeck (2 x stainless fixed mooring cleats & fair leads)
- Amidships & cockpit (6 x stainless fixed mooring cleats)
- Swim platform (2 x stainless pop-up mooring cleats)

**Anchoring gear**

Condition/appearance: **above average**  
Function: **normal**

**Locations/descriptions:**

- **Anchor pulpit** – none
- **Chute(s)** – single stainless chute and plastic roller

**Glazing materials**

Condition/appearance: **above average**  
Gaskets and seals: **appeared serviceable**

**Location & type:**

- Flybridge – fixed windscreen (stainless & plastic)
- Pilothouse & main cabin – fixed windows (frameless glass)
Exterior hatches, portlights and doors
Condition/appearance: above average  Function: normal  Gaskets and seals: appeared serviceable
Location & type:
- Secondary egress (escape) - foredeck
- Hull sides – portlights (stainless & glass)
- Foredeck – hinged deck hatch (aluminum & plastic)
- Pilothouse door – hinged watertight (aluminum & glass)
- Main cabin aft end – sliding door (stainless & glass)
- Cockpit deck & upper deck – hinged hatches (molded fiberglass)
- Pilothouse/flybridge door – hinged hatch (aluminum & plastic)
- Cockpit & swim platform – hinged locker doors (molded fiberglass)

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

Bow thruster
Condition/appearance: above average  Function: normal
- Location – forward stateroom berth
- Manufacturer/model – American Bow Thruster
- Type – 10” tunnel type dual propeller hydraulic
- Test performed – observed in use during trial-run
Comments:
- Thruster system is driven directly off port AC generator crankshaft

Underwater gear
Condition/appearance: above average  Function: normal  Damage, abuse or excessive wear: none noted
- Propellers – 42” x 73.5” seven bladed bronze alloy (diameter & pitch according to owner’s manual)
- Shafting – 3 ½” stainless
- Shaft support – two bronze struts each side
- Bearings – rubber Cutless® type
Comments:
• Propeller shaft bearings are worn lightly but did not cause vibration indicating they remain serviceable

**Rudders & linkages**

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

- **Rudder description** – bronze spade type
- **Thru-hull seal** – South Eastern Foundries dripless type
- **Supports** – composite table, bronze bearing and retaining collar, plastic wear plates
- **Linkages** – bronze tillers, stainless swivels and tie-bar
- **Steering components** – bronze hydraulic cylinders
- **Emergency tiller** – n/a

**Trim tabs**

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

- **Manufacturer** – Bennett Marine
- **Type** – 24 volt electric hydraulic
- **Controls** – dual rocker switches
- **Pump** – lazarette centerline
- **Planes** – 26” x 8” recessed hinged stainless single actuators
- **Test performed** – vessel trim adjusted while underway

**Thru-hulls, seacocks, transducers**

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

- **Underwater** – Threaded bronze fitted with ¼ turn valves, bonded with stainless clamps on hoses connections at the following bilge locations:
  - Stbd stateroom bilge – waste overboard and one unused (plugged)
  - Forward of main engines – main engine inlets
  - Aft of port main engine – inlets for AC generator, watermaker & thruster cooling pump
  - Aft of stbd main engine – inlets for AC generator & air-conditioners
- **Topside** – threaded bronze, fiberglass & 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 light wear and tear descriptions as follows (natural wood Maple or similar):

- **Doors** – hinged natural wood
- **Decks** – wood grain composite
- **Cabinetry** – natural wood
- **Bulkheads and partitions** – natural wood
- **Ceilings** – vinyl headlinings
- **Counters** – Corian® or similar in heads, granite elsewhere
- **Cushions** – cloth skins
- **Natural ventilation** – limited opening appliances
- **Powered ventilation** – head enclosures
Fixtures and appliances – serviceable

**Entertainment equipment**
Condition/appearance: **average**   Function: **normal**
Locations/descriptions:
- Flybridge – stereo (Jensen MWR32)
- Forward stateroom – TV (23” Toshiba)
- Stbd stateroom – TV/DVD (17” Magnavox [no cable connection])
- Aft stateroom:
  - TV (31.5” Insignia)
  - VHS (Sharp VC-H813)
  - Stereo (Yamaha RX-496)
  - DVD (Yamaha DVD-C996)
- Pilothouse – TV (18.5” Element)
- Main cabin:
  - TV (41.5” Panasonic)
  - Stereo (Pioneer VSX-1326)
  - DVD (Yamaha DVD-C996)
  - DVD (LG)
- Lower helm console interior (Direct TV receivers)

**Galley equipment**
Condition/appearance: **average or better**   Function: **normal**
Locations/descriptions – Located in galley except as noted:
- Microwave (Sharp R-1850A)
- Range (Whirlpool four burner glass top)
- Wine cooler (Whynter)
- Sink & disposal (Single stainless)
- Refrigerator (Sub-Zero 700BR)
- Freezer (Sub-Zero 700BF)
- Coffeemaker (Mr. Coffee)
- Toaster (Hamilton Beach two slice)
- Main cabin – icemaker (Scotsman DCE33A-1SSD)
- Flybridge – refrigeration/icemaker (U-Line C029W-03A)
- Lower cabin – clothes washer dryer (Whirlpool LTE5243DQ2)

**Sanitary system**
Condition/appearance: **average or better**   Function: **normal**
Locations/descriptions:
- Quantity - three
- Manufacturer - Sealand
- Type – 24 volt vacuum flush freshwater rinse
- Vented loops (if required) – n/a
- Y-valves (direct overboard discharge) – lower cabin bilge

**Air-conditioning**
Condition/appearance: **average**   Function: **normal (except as noted in summary remarks & notes)**
Locations/descriptions:
- Quantity - five
- Manufacturer – Crusair
- Type – remote mounted heat pump
- Controls – SMX Online digital
- Equipment – stbd side of engine room (5 x condensing units)
- Cooling pump – engine room stbd side (2 x AC electric centrifugals)
• Test performed – all units operated on heat & 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 (50%) where accessible for inspection:

- Tanks – 1,290 gallons capacity contained in three fiberglass tanks secured in centerline bilge amidships and outboard sides of lazarette
- Fills – stbd side deck amidships and side decks port and stbd sides near cockpit
- Vents – hull sides
- Plumbing materials – USCG Approved Type-A hose
- Shut-off valves – engine room and lazarette
- Filters:
  - Main engines – engine room centerline (dual Racor 1000s)
  - AC generators – attached to generator platforms (Racor 500 each)
  - Level gauges – lower helm console
  - Fuel transfer pumps – beneath port side AC generator (Oberdorfer N992-24C24B-W)
  - Engine prime pumps – mounted to each filter stand

Potable water
Found the following to be in above average condition without evidence of leakage to level filled (90%) where accessible for inspection:

- Tanks – 280 gallons capacity contained in two fiberglass tanks secured in amidships bilges
- Fills – stbd side deck amidships
- Vents – hull side
- Plumbing materials – plastic tubing
- Shut-off valves – manifolds at the following locations:
  - Lower cabin bilge
  - Engine room port hull side
  - Engine room forward bulkhead stbd side
- Filters – engine room port side
  - Pressure pump – engine room port side (Headhunter M5-230/60)
  - Accumulator tank – forward stateroom bilge (Well-X-Trol WX-103)
  - Water heater – aft stateroom cabinet (20 gallons 240 volts [label not accessible])
  - Dock water inlet – transom and engine room vent port hull side
  - Level gauges – galley sink cabinet (Headhunter TS2500)

Waste
Found the following to be in above average condition without evidence of leakage to level filled (0%) where accessible for inspection:
- Tanks – 100 gallons capacity contained in one fiberglass tank secured in lower cabin bilge
- Deck fitting – stbd side deck amidships
- Vents – hull side
- Plumbing materials – PVC pipe & hose
- Y-valves – none

Comments:
- Waste tank pump switch is located in forward stateroom bilge adjacent to pump

ENGINES, AND ENGINE AND VESSEL CONTROLS

Engines
Condition/appearance: above average  Function: normal
- Location - amidships
- Description – V12 cylinders turbocharged aftercooled diesels
- Power transmission – close coupled straight-drive
- Cooling system – closed loop freshwater raw water cooled heat exchanger
- Mounting:
  - Foundations & beds with metal cap
  - Mounts – adjustable vibration isolator type
- Cleanliness – above average
- Fluid levels and condition – refer to engine surveyor’s report (no abnormal conditions noted during survey)
- Accessibility – very good in all areas

Exhaust systems
Condition/appearance: above average  Function: normal
- Exhaust manifolds – freshwater cooled steel
- Risers – insulated stainless with raw water cooled discharge
- Exhaust fittings – fiberglass collectors/surge tubes
- Muffler – inline fiberglass

Damage or abuse: none noted
- Exhaust outlet – integral fiberglass (hull sides at stern)
- Straight runs – fiberglass pipe
- Connecting hoses – blue silicon rubber
- Hose connection clamps – double stainless at each connection point

Engine ventilation
Condition/appearance: above average  Function: normal
Location & type:
- Natural – hull side vents
- Powered – Delta-T electric blower

Engine controls
Condition/appearance: above average  Function/ease of operation: normal (except as noted in summary remarks & notes)
- Manufacturer/model – Sturdy®
Description – electronic type noted the following:
  o Primary – upper & lower helms (single lever type)
  o Secondary – cockpit stbd side (toggles & knobs)
  o Manual backup – lower helm console (toggles & knobs)

Neutral safety interlock (prevents starting in gear) – yes

Engine instrumentation
Condition/appearance: above average  Function: normal
  • Manufacturer – Caterpillar and others
  • Type – analog & digital ECM data displays
  • Locations:
    o Upper & lower helms - Caterpillar ECM data displays
    o Upper & lower helms - RPMs, coolant temperature, oil pressure, gear oil temperature & pressure & volts
    o Engine room - digital rpms, oil pressure & temperature, fuel pressure, amps, gear oil temperature & pressure & coolant temperature
  • Alarms - yes

Steering
Condition/appearance: above average  Function/ease of operation: normal
  • Manufacturer/model - Hynautic
  • Description – wheel type power assisted manual hydraulic (driven by port main engine)
  • Locations – upper & lower helms
  • Reservoir – hull side outboard of port main engine

EQUIPMENT
Air-compressors
Condition/appearance: above average  Function: normal
Locations/descriptions:
  • Location – outboard of stbd main engine
  • Manufacturer/model – Devilbiss IRFA153-2 120 volt
  • Type – 120 volt reciprocating type integral accumulator tank

Pumps dewatering and utility
Condition/appearance: above average  Function: normal
Bilge location, type & description:
  • Forward stateroom bilge:
    o Dewatering (Rule 3700 gph)
    o Shower sump (Rule 2000 gph in plastic box)
  • Engine room (Rule 3700 gph)
  • Lazarette:
    o Dewatering (Rule 3700 gph)
    o Shower sump (Rule 500 gph fully automatic)
Comments:
- Each bilge compartment is isolated and equipped with only one dewatering bilge pump

**Rigging utility**
Condition/appearance: above average  Anchoring & bedding: appeared adequate
Type, location & description:
- Tender crane – upper deck (Nautical Structures Model 1100)

**Windlass**
Condition/appearance: above average  Function: normal
Descriptions (windlass located at foredeck unless noted otherwise):
- Manufacturer/model – Maxwell Liberty
- Type – 24 volt vertical with wildcat & warping head
- Control locations – foredeck and helms
- Service disconnect – see comment below

Comments:
- No breaker/disconnect was found labeled windlass. Suspect a 40 amp breaker on the engine room forward bulkhead labeled bow thruster may have been repurposed for windlass but not labeled as such

**Accessories**
Condition/appearance: above average  Function: normal
Description & location:
- 2 x Glendinning Shore Power Cablemasters (transom)
- Reverso oil change system (engine room aft centerline)
- Marquipt boarding ladder (cockpit)

Comments:
- Vessel owner reports watermaker was rebuilt in last 12 months

**ELECTRICAL SYSTEMS**

**Galvanic corrosion protection**
Condition/appearance: above average  Serviceable: yes
Descriptions & locations:
- Anodes (zinc unless noted otherwise) – propeller shafts and rudders
- Bonding system - yes
- Isolation transformers – 2 x Jefferson 15 KVA (engine room aft stbd side)

**AC electrical system**
Condition/appearance: above average  Function: normal
Locations & descriptions of significant components and features:

- **Voltage** – 240 & 120
- **Inlet types & locations** – 2 x 24 volt 50 amps (transom port side)
- **Inlet circuit protection** – lazarette forward bulkhead port side
- **Main panel:**
  - Location – pilothouse stbd side
  - Instrumentation – digital volt, amp & Hz meters
  - Source selector switches – rotary and toggle with sliding interlock
  - Reverse polarity indicator – n/a

Tests and examinations:

- Shoreline output – normal
- Generator output – normal
- Inverter output – n/a
- AC/DC grounding connection – yes
- Condition of shore cord – average or better
- Condition of shore cord inlet – n/a (hard wired to hull)

Comments:

- Additional panels engine room forward bulkhead

**DC electrical system**

Condition/appearance: above average  Function: normal

Locations & descriptions of significant components:

- **Voltage** – 24 & 12
- **Panel locations** – stbd side of pilothouse, lower helm console interior & engine room forward bulkhead
- **Panel instrumentation** - none

- **Branch circuit protection** - breaker
- **Primary circuit protection** – breaker & fuse

**Alternating current generators**

Condition/appearance: above average  Function: normal

Description:

- **Engine type** – four cylinders naturally aspirated diesel
- **AC generator mounting** – close coupled
- **Location** – engine room aft port & stbd
- **Circuit protection:**
  - Generator – yes
  - Main panel – yes

Damage or abuse: none noted

- **Accessories** – drip pan, sound shield & remote starting/stoppping
- **Fuel, exhaust, cooling water and electrical connections** – serviceable
- **Vented loop (may be necessary for deep draft installation)** – n/a

**Battery charging devices**

Condition/appearance: above average  Function: normal

Locations/descriptions:

- **AC electric** – engine room forward bulkhead (Charles 9C-24605SPI-A)
- **Alternators** – main engines

Damage or abuse: none noted

- **Renewable** – none
Storage batteries
Condition/appearance: above average Function: normal Damage or abuse: none noted
- Batteries – 4 x 8D flooded lead acid secured in covered fiberglass boxes outboard of main engines
- Disconnects – engine room forward bulkhead

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: above average Function: normal (except as noted in summary remarks & notes)
- Flybridge:
  - Magnetic compass (Ritchie Powerdamp)
  - Autopilot (Simrad AP22)
  - Autopilot wired remote (Simrad AP21)
  - Vessel alarm system (Hatteras MMI-110)
  - Remote control searchlight (ACR)
  - Chart plotter, radar, sounder (Garmin GPSmap7608)
  - Chart plotter, radar, sounder (Garmin GPSmap 7215)
  - VHF (Icom IC-M506)

- Pilothouse:
  - 3 x windshield wipers & irrigators
  - VHF (Icom IC-M502)
  - Chart plotter (Northstar 952X)
  - Autopilot (Simrad AP20)
  - Multi data (B&G HS2000)
  - Chart plotter (Garmin GPSmap 7215)
  - Magnetic compass (Ritchie Powerdamp)
  - Vessel alarm system (Hatteras MMI-110)
  - Remote control searchlight (ACR)
  - Hailer (Horizon LH5)
  - Window defrosters (Cruisair)

Comments:
- Hull side outboard of port main engine - autopilot pump
- Engine room and rear facing video cameras integrated into flybridge chart plotter

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 – engine room forward bulkhead (Sea-Fire FD1400M [due for service])
- Fixed fire system manual activator – upper helm
- Portable handheld USCG Approved Sizes located as follows – Size BCI located as follows:
  - Pilotthouse helm console (2000)
  - Forward stateroom hanging locker (1999)
  - Stbd stateroom hanging locker
  - Aft stateroom closet
  - Galley sink cabinet
Gas detection systems
- CO – not found
- Smoke – yes

Emergency bilge pumps and high water alarms
- Dewatering pumps – vessel is equipped with one dewatering bilge pump at each compartment except as noted below
- Audible alarms – yes
Comments:
- Lower cabin bilge has shower sump box that could be opened to provide additional dewatering capacity in the event of flooding, lazarette has open shower sump that aid in dewatering, engine room is served by only one dewatering bilge pump

Signaling devices
- Flares – not sighted
- Hull mounted sound - yes
- Handheld sound – not found
- Bell – cockpit
Comments:
- Epirb UIN: 2DCC750232FFBFF (battery expiration: 09/2018)

Navigation lights
- Side – flybridge spoiler sides
- Mast head/anchoring – top of mast
- Stern – aft end of upper deck

Flotation devices
- Personal & throwable USCG Approved devices located as follows:
  - 5 x Type II & 2 x Type I adult (flybridge aft lounge seat base)
  - 24” ring buoy (lazarette)
- Liferafts – not found

Ground tackle
Condition/appearance: above average  Function: appeared adequate for routine service (except as noted in summary remarks & notes)
Locations/descriptions:
- Primary anchor – Plow type, chain lead & laid nylon rode
- Back-up anchor – not found
Additional required (non-safety)

- Pollution placards (Vessels 26 feet and over with a machinery compartment) – engine room & lazarette
- Marpol Trash Placard (Vessels 26 feet and over) – engine room door
- **Written trash disposal plan (Vessels 40 feet and over) – not found**
- Navigation rules (Vessels 39.4 feet and over) – lower helm seat back rest
- Vessel identification locations:
  - HIN – upper stbd transom corner
  - Documentation # - engine room centerline
  - Name - transom
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. Fixed fire system is due for recertification; inspect and certify to insure its reliable function.
2. Portable handheld fire extinguishers at the following locations have exceeded their 12 year useful service life; replace with new:
   a. Pilothouse helm console interior
   b. Forward stateroom hanging locker
   c. Engine room forward centerline
   d. Tender
3. Put aboard at least three unexpired USCG approved day/night visual distress signals or other type USCG Approved system that satisfies the requirement (certain battery powered beacons are now approved).
4. Mast lightning protection air terminal significantly blocks back ½ of mast head anchoring light; suggest modification of installation to insure proper 360 degree visibility of anchoring light with five degrees or less blocked by air terminal.
5. Back ½ of mast head anchoring light and stern running light are inoperative; service as necessary to restore their normal function.
6. Put aboard written Trash Disposal Plan signed by vessel master.

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:

7. Provide permanently installed means to allow unassisted reboarding by persons in the water using ABYC H-41, 41.9 for guidance (ladders, hand or foot holds or combinations thereof may be used to satisfy this requirement).
8. Testing of engine controls produced normal results at upper and lower helms but the following occurred while testing other locations; system should be serviced or repaired as necessary to insure its normal function:
   a. Cockpit maneuvering station – normal except that with both engines in gear stbd throttle controlled rpms both engines, advancing port throttle caused system to go offline.
   b. Manual control in lower helm console – stbd engine shifted normally, operating port engine control caused system to go offline and MMI-110 alarmed “check engine”.
9. Install CO monitors in areas of vessel interior where passengers will be sleeping; suggest the following locations:
   a. Owners stateroom
   b. Lower cabin companionway
c.  Saloon in vicinity of galley
10.  High water alarm does not sound when lazarette level switch is raised; service as necessary to restore its normal function.
11.  Lazarette dewatering bilge pump wiring is made with wire nuts; replace wire nuts with proper heat shrink waterproof connections to insure its reliable function.
12.  Vessel is equipped with just one dewatering bilge pump at each compartment; suggest carrying portable pump (manual or electric) with connections adequate to reach suitable overboard discharge point that can be employed in the event of flooding and primary pump failure.

SUGGESTED REPAIRS AND/OR CHANGES
Items based upon surveyor’s observations or experience that may improve the vessel’s reliability, utility or longevity:
13.  Tender is not equipped with USCG required safety equipment; recommend putting aboard visual distress signals, lifejackets, throwable flotation device and handheld signaling device.
14.  Tender battery strap is loose; refasten as necessary to insure battery remains securely in place.
15.  Latch is broken on shore power cord transom locker door; repair or replace to insure door remains securely closed when shut.
16.  One of eight fasteners on stbd main engine external hull strainer is broken off; repair or replace as necessary at next scheduled haul-out.
17.  The following items were noted in vessel interior:
   a.  Edges are worn on main electrical panel doors in pilothouse and doors do not latch shut securely; service as necessary to restore their normal function and improve their cosmetic appearance.
   b.  Lamp in inoperative in laundry closet; service as necessary to restore its normal function.
   c.  One of two gas springs is bent on forward berth storage locker; replace with new.
   d.  Rope lighting in forward stateroom under berth and counter stbd side is inoperative; service as necessary to restore its normal function.
   e.  Forward stateroom berth coaming is loose on stbd side; refasten as necessary.
   f.  Overhead reading lamps are inoperative in forward stateroom over head of berth; service as necessary to restore their normal function.
   g.  Overhead locker door latch is broken forward stateroom stbd side aft; repair as necessary.
   h.  One of two door latches is inoperative stbd stateroom night stand; repair or replace as necessary.
   i.  One of two door latch knobs are stuck in mid head medicine cabinet door; repair or replace as necessary.
   j.  Top drawer does not latch closed aft stateroom aft night stand; repair as necessary.
18.  Amp meter is inoperative port main engine panel in engine room; repair as necessary to restore its normal function.
19.  Instrument lights function normally at upper helm but trip breaker when lower helm is activated; service as necessary to restore their normal function.
20.  Anchor windlass electric motor was found to be loosely attached subsequently tightened by vessel owner (three of four fasteners); repair or replace remaining loose fastener to insure windlass motor remains securely attached.
21. ACR remote control searchlight functions normally except it does not articulate up and down from either helm location; service as necessary to restore its normal function.
22. Pillothouse window defoggers are inoperative; service as necessary to restore their normal function.
23. Hailer at lower helm is inoperative; service as necessary to restore its normal function.
24. Lower helm seat electrical function is inoperative; service as necessary to restore its normal function.
25. Anchor required physical manipulation to roll into position to return into chute; suggest installation of swivel or other device to allow it to automatically rotate into position when returning to its rest position.
26. Shackles securing chain to anchor are not safety wired; install safety wire to insure they remain securely attached.
27. Put aboard back-up anchor and rode to use in event primary becomes fouled in anchor locker or additional holding power is required or desired.
28. Aft stateroom air-conditioner had low differential temperature of approximately 8 degrees F (delta between inlet discharge and return air); service as necessary to restore its normal function.

(End of report photo pages to follow)
PHOTOS