

GLADDING MARINE SURVEYING AND CONSULTING, LLC

1738 PICKWICK PLACE-FLEMING ISLAND-FLORIDA-32003

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



SURVEY REPORT VESSEL: xxxxxxxxxx

Prepared by: Bill Gladding SAMS-AMS® #810
Society of Accredited Marine Surveyors

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SURVEY BASIC DETAILS

SURVEY PURPOSE: prepurchase
FILE #: 2024-06-17 Nordic Tug 42 2010

REQUESTED BY: xxxxxxxxxxxxx
REPORT DATE: June 19, 2024

CLIENT INFORMATION: xxxxxxxxxxxxx
OWNER INFORMATION: xxxxxxxxxxxxx

SURVEY DATE: June 17 & 18, 2024
SURVEY LOCATION: Camachee Cove Yacht Harbor, St. Augustine, Florida
ATTENDING: xxxxxxxxxxxxx
ENGINE SURVEYOR: Mark Wilson (Cummins Dealer)

VESSEL & MACHINERY DATA

Vessel identification numbers (source: transom upper stbd corner & desk)

Hull ID #: xxxxxxxxxxxxx Registration #: xxxxxxx



Vessel type and dimensions (source: builder's specifications except as noted below)

Manufacturer: Nordic Tug Co. Inc. Model: Nordic Tug 42 Model year: 2010 Length: 46'3"
Beam: 13'10" Draft: 4'8" Weight lbs. Travelift scale: 40,185 Weight lbs. published: 31,400
Hull composition: fiberglass

Engines (source: engine decal & pilothouse helm panel)

Type and #: single inboard Horsepower: 550@3,000 rpms Fuel type: diesel Manufacturer: Cummins
Model: QSC8.3550HOI Serial #: 73027199 Hours: xxxxxxx

Transmissions (source: data plate)

Manufacturer: Twin Disc Model: MG5075A Ratio: 2.88 Serial #: 5KE239

Alternating current generator (source: decals & generator hour meter)

Manufacturer: Cummins Model: 11.5MDKBM-5177E KW: 11.5 Fuel type: diesel
Serial #: H080203854 Hours: xxxxxxx

TENDER DATA

Tender (source: data plates & online sources)

Hull ID #: xxxxxxxxxxxxx Registration #: xxxxxxx Manufacturer: AB Inflatables
Model: 10AL Model year: 2010 Length: 10'6" Beam: 5'6"

Engine (source: decal)

Type and #: outboard Horsepower: 15 Fuel type: gas Manufacturer: Yamaha Model: F15SMHA
Serial #: 6AGKS1057785

RECOMMENDATIONS

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

1. **Shore power cord boat end lock ring is missing; replace missing lock ring.**
2. **Fixed and portable fire extinguishers are due for inspection; a full maintenance check should be made by a qualified fire extinguishing service facility in accordance with the**

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maintenance instructions on the name plate of the extinguisher. A tag should be attached showing the date of such maintenance check.

- 3. Serviceable CO/smoke alarms not found aboard; install at least one lower cabin and main cabin in the vicinity of the galley.**
- 4. Windlass handle end is mushroomed and will not fit into emergency wheel; recommend keeping separate handles for releasing the clutch and operating the emergency wheel.**
(In addition, see Summary Remarks and Notes section at end of survey where the above are also cited)

This vessel was surveyed using the USCG 33CFR requirements and NFPA and ABYC standards and recommendations in effect today for guidance. 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 (as equipped): warm coastal waters

*****For regular use more than 12 miles offshore suggest carrying Epirb and offshore type lifejackets*****

*****Warm water means water where the monthly mean low water temperature is normally more than 59 degrees Fahrenheit*****

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VALUATION

Subject vessel was found to be in overall above average condition with less than expected wear and tear. It appears very well maintained by its original current owner in its well-equipped original condition plus the addition of gyro stabilization. It was built with several options including but not limited to a flybridge, stern thruster, air-conditioning and tender crane. In the valuation determination, cost and market comparison approaches to value were considered on June 19, 2024. In the sales comparison approach Yachtworld.com and the subscription website Soldboats.com was reviewed. Current listings and actual reported sales figures were taken into consideration. Price Guide “Book” values were also taken into consideration. In cases where limited relevant comparables are available for comparison a depreciated replacement cost may be used to develop a value. In the opinion of the undersigned the following values should apply:

Estimated current fair market value: \$XXXXXXXXXX

Market value assumes correction of significant survey findings

Replacement cost: \$1,400,000 (Seattle Yachts Annapolis Dan Bacot)

Values are dependent on the limiting conditions and assumptions noted in the report.

These values are statements of opinion. No guarantee can be given that these opinions of value will be sustained or that they will be realized in an actual transaction.

Specific references

Pricing guides

Abos.com..... builder not listed
Bucvalupro.....\$379,500 to \$417,500
Jdpower.com.....\$224,500 to \$254,500
Powerboat Guide..... prices not given
(Options not added to guide values unless noted otherwise)

Current listings

Yachtworld.com..... \$674,600
(1 result – subject vessel)

Reported sales

Soldboats.com.....\$380,000 to \$600,000
(5 results – 2007 to 2011 model years sold January 2020 to present)

Valuation based upon depreciated replacement cost

\$1,400,000 depreciated annually..... \$620,085 to \$652,721
(Depreciation rate based upon surveyor’s experience)

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.

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.

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The survey contains opinions and observations based on my skill, experience and training as a marine surveyor and consultant. Acceptance and use of this report by the client acknowledges the client's understanding that the report has been composed of information that is believed to be true after reasonable investigation and inquiry but is not warranted to be so. The information was obtained without drilling, diving, ultrasonic testing, cleaning, or opening up to expose parts or conditions ordinarily concealed. There were no tests for tightness or soundness conducted other than the conditions noted visually.

Acceptance and use of this report acknowledges the client's understanding that no determination of stability or structural strength has been made and no opinion is expressed. Acceptance and use of this report acknowledges the client's understanding that Gladding Marine Surveying and Consulting, LLC does not accept any responsibility for damage or deterioration not found or discovered during the course of survey, nor for consequential damage, deterioration, or loss due to any error or omission.

The Client hereby undertakes to keep the Surveyor/Consultant and its employees, agents and subcontractors indemnified and to hold them harmless against all actions, proceedings, claims, demands or liabilities whatsoever or howsoever arising which may be brought against them or incurred or suffered by them, and against and in respect of all costs, loss, damages and expenses (including legal costs and expenses on a full indemnity basis) which the Surveyor/Consultant may suffer or incur (either directly or indirectly) in the course of the services under these Conditions.

Notwithstanding the above clause, in the event that the Client proves that the loss, damage, delay or expense was caused by the negligence, gross negligence or willful default of the surveyor/Consultant aforesaid, then, save where loss, damage, delay or expense has resulted from the Surveyor's/Consultant's personal act or omission committed with the intent to cause same or recklessly and with knowledge that such loss, damage, delay or expense would probably result, the Surveyor's/Consultant's liability for each incident or series of incidents giving rise to a claim or claims shall never exceed a sum calculated on the basis of ten times the Surveyor's/Consultant's charges.



William K. Gladding, AMS® #810
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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. Because of this, some areas were not reached behind cabinetry, under decks and other areas not readily accessible. 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 for defects. In addition, other non-destructive methods may have been used such as tap testing or employing moisture detection equipment. 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.

Key to highlighted comments as follows:

- Positive comment related to safety or functionality
- Informational comment no finding generated
- High priority finding related to safety, utility, or reliability
- Moderate to low priority finding related to utility or reliability

Test equipment that may be referenced in the report:

- Tramex Skipper or GE Aquant moisture meter
- Flir® C3 infrared camera
- AC electrical circuit analyzer
- AC electric three light plug in tester
- Non-contact digital tachometer
- Multi-meter electrical tester
- Assorted hammers and measuring devices
- Loos gauges to check rigging tension

VESSEL GENERAL DESCRIPTIONS

Exterior arrangement – mono-hull powerboat noted the following:

- Hull – modified V-bottom planing type with full keel that protects the propeller and rudder, and hard chines; stem is nearly plumb, curved sheer slopes downward from the bow near the stern then continues level aft; transom is plumb, full height with a bolted-on swim platform resting on stainless-steel supports
- Decks and superstructure – recessed main deck from bow to stern with ample walkways around the cabins and steps down to the recessed aft deck area; superstructure consists of trunk cabin forward followed by the pilothouse at main deck level flybridge above; main cabin is aft of the pilothouse at the aft deck level; upper deck overhangs the aft deck
- Helm(s) - pilothouse

Interior arrangement – Split level lower cabin, raised deck in main cabin over the machinery space, main deck level pilothouse noted the following:

- Staterooms – one at forward end on upper level and one aft end port side lower level
- Heads – one in forward stateroom and one in passageway upper level
- Galley – main cabin forward end
- Dinette – main cabin aft end & pilothouse

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- Saloon – lounge areas in main cabin & pilothouse
- Helm(s) – pilothouse
- Other:
 - Desk/navigation station lower cabin aft end stbd side
 - Spacious engine room
 - Large lazarette

Structural elements

- Hull skin material and type cosmetic finish – molded fiberglass, gelcoat cosmetic finish
- Hull grid system layout and materials – four continuous fiberglass stringers, transverse supports at various intervals between
- Hull deck joint – overlapping flanges mechanically fastened
- Continuous transverse bulkhead locations and materials – fiberglassed plywood 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, gelcoat cosmetic finish

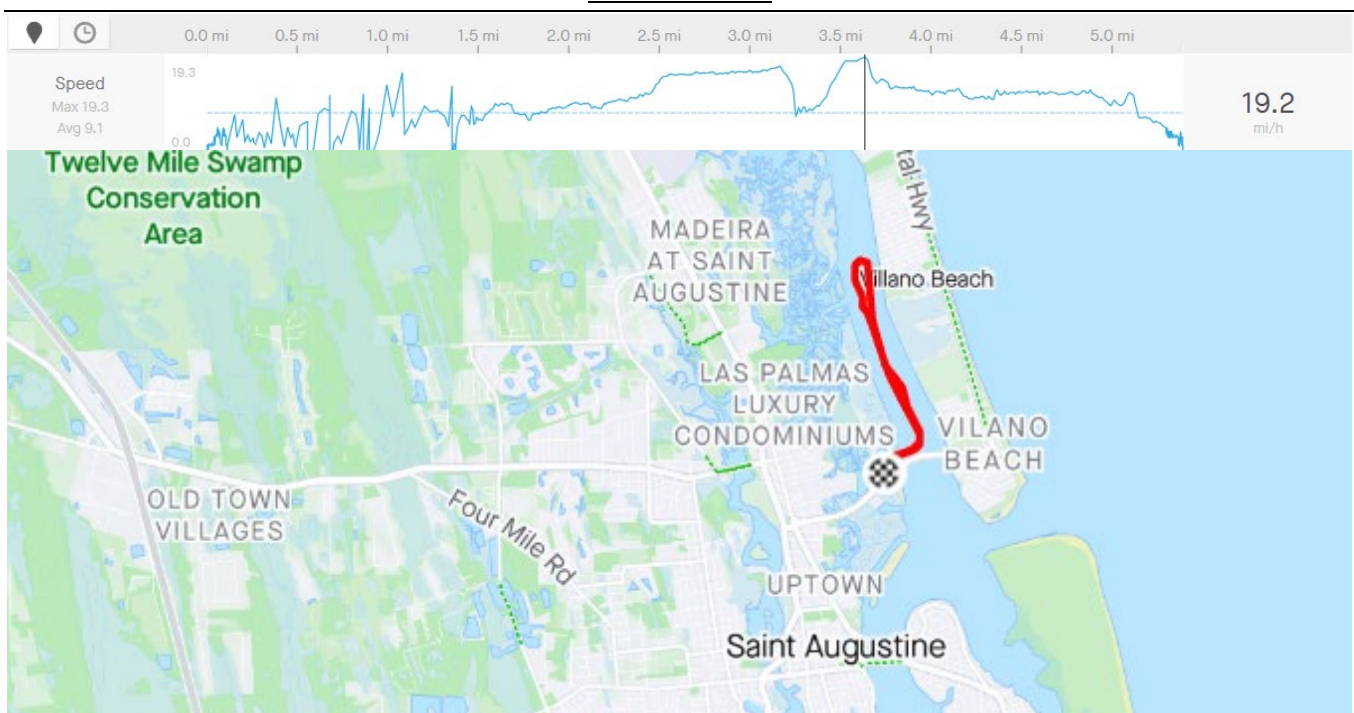
SURVEY FINDINGS

UPGRADES/REBUILDS

Including but not limited to the following:

- Seakeeper 6 gyro stabilizer added

TRIAL RUN



- Date – June 18, 2024
- Location – ICW north of the Vilano Bridge

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- Conditions:
 - Temperature °F (81)
 - Wind direction & velocity mph (east@20)
 - Wave height estimated (calm)
- Duration – approximately 45 minutes
- Number of passengers - seven
- Tanks levels:
 - Fuel – 90%
 - Water – 60%
 - Waste - <25%
- Hull performance – vessel performed well in all respects. RPMs – speed in knots – headings noted as follows:
 - 1,630 – 5.2 – east
 - 1,460 – 7.1 – north
 - 1,850 – 7.6 – north
 - 3,040 – 13.9 – north
 - 3,040 – 16.5 - south
- Engine performance:
 - Cold start - normal
 - **Wide open throttle rpms (3,000+ desired) – 3,040**
 - Temperatures and pressures – normal (maximum coolant temperature indicated just above 180 degrees F)
- AC generator performance:
 - Voltage and frequency - normal
 - Loads applied – air-conditioners and other house loads
- Comments – uneventful trial-run in spite of high winds

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 because 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

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- Chaffing gear – sheer & hull sides (stainless-steel on plastic rub rail)
- Swim platform – molded fiberglass
- Permanently installed means for reboarding – telescoping stainless-steel ladder

Comments - Reboarding ladders should be secured in a way they can be deployed by passengers who may find themselves in the water unexpectedly, so they may reboard unassisted.

Deck drainage

Primary drainage system: freeing ports

Other drainage systems: scuppers Condition: above average

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

Comments - Surveyor has witnessed several sinking and flooding events due to clogged deck drains backing up rainwater 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 because 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

Exterior soft goods

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

Location & type (installed at time of survey):

- Pilothouse window shades (Textilene® screen or similar)
- Flybridge helm cover (vinyl)
- Flybridge helm seat cover (canvas)
- Flybridge seat cushions (vinyl skins)
- Flybridge Bimini (canvas on stainless-steel frame)
- Tender cover (vinyl)
- Tender crane cover (canvas)

Exterior hardware

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

Location & type – stainless-steel:

- Safety rails
- Handrails
- Flybridge ladder (plastic treads)

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Tie-up gear

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

Location & type – stainless-steel:

- Foredeck (Samson post & 2 x horn cleats)
- Amidships (4 x horn cleats)
- Stern (4 x horn cleats)

Anchoring gear

Condition/appearance: above average Function: normal

Descriptions:

- Anchor pulpit – molded fiberglass bolted on foredeck
- Chute(s) – 2 x stainless-steel chutes (plastic rollers)

Glazing materials

Condition/appearance: above average Function: appeared serviceable

Gaskets and seals: appeared serviceable

Location & type:

- Flybridge – venturi windshield (molded plastic)
- Pilothouse & main cabin – fixed & sliding windows (aluminum frame, glass glazing)

Exterior hatches, portlights and doors

Condition/appearance: above average Function: appeared serviceable

Gaskets and seals: appeared serviceable

Location & type:

- **Secondary egress (escape) – trunk cabin top**
- Hull sides – rectangular portlights (stainless-steel frame, glass lens)
- Trunk cabin sides – round portlights (stainless-steel frame, glass lens)
- Trunk cabin top – hatch (aluminum frame, plastic lens)
- Pilothouse sides – sliding doors (aluminum with glass glazing)
- Main cabin aft end – hinged door (aluminum with glass glazing)
- Transom port side – hinged gate (molded fiberglass)
- Aft deck sole – hatches (molded fiberglass)
- Various locations – locker doors (molded fiberglass)

Comments - Hatches, portlights, doors, etc. used for primary and emergency ingress/egress, and access to gear and equipment were thoroughly checked for condition and function. Others were examined for general condition and evidence of leakage but not operated.

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

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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 & stern thrusters

Condition/appearance: above average Exceptions noted: none

- Manufacturer/model – Lewmar 185TT 6.0KW 12V
- Type – 12-volt 7 ¼” tunnel type with single propeller
- Location – inside forward berth and transom exterior
- Battery service-disconnect – inside forward berth and lazarette stbd side
- Overcurrent protection – inside forward berth and lazarette stbd side (fuse)
- Test performed – examined for damage, excessive wear, leakage and observed working performing docking maneuvers in high winds and close quarters

Underwater gear

Condition/appearance: above average Exceptions noted: none

- Propellers – 30” diameter left hand 5-blade bronze alloy
- Shafting – 2 ½” stainless-steel
- Shaft support – keel mounted bearing carriers
- Bearings – rubber Cutless® type
- Shaft log – integral fiberglass
- Shaft seal – PSS® self-aligning dripless type
- Fasteners – appeared secure
- Test performed – examined for damage, excessive wear and leakage

Rudders & linkages

Condition/appearance: above average Exceptions noted: none

- Rudder description – welded stainless-steel
- Thru-hull seal – Tides Marine® dripless type
- Supports – rudder shoe, composite beam & tiller
- Linkages – bronze tiller
- Steering components – bronze hydraulic cylinder
- Emergency tiller – none
- Test performed – examined for damage, excessive wear and leakage

Stabilizer

Condition/appearance: above average Exceptions noted: none

- Manufacturer/model – Seakeeper 6
- Type – 240-volt gyro
- Control – lower helm overhead console (graphical display)
- Actuator locations – lazarette centerline

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- Cooling pump – lazarette port side (Prime Time PT-230VT-50/60W)
- Cooler – integral to gyro assembly
- Test performed – operated during trial-run

Thru-hulls, seacocks, transducers

Condition/appearance: above average Exceptions noted: **yes** (see summary remarks & notes)

- Underwater - bronze alloy fitted with ¼ turn valves, bonded with stainless-steel clamps on hoses connections at the following bilge locations:
 - Engine room forward end stbd side – **blackwater tank overboard discharge pump**
 - Engine aft end port side – **inlets for engine & air-conditioner cooling pump**
 - Engine room aft end stbd side – **inlet for AC generator & AC generator exhaust water drain**
 - Lazarette port side – **inlets for raw-water washdown & gyro cooling pump**
- Topsides – stainless-steel
- Transducers – engine room forward end port and stbd sides

ACCOMMODATIONS, HOUSEHOLD SYSTEMS & COMFORT SYSTEMS

Interior spaces

Bulkheads, partitions, and cabinetry were 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 expected wear and tear descriptions as follows:

- Doors – hinged & sliding
- Decks – varnished teak & holly
- Cabinetry – varnished & oiled teak, Formica & padded vinyl
- Bulkheads and partitions – varnished & oiled teak, Formica & padded vinyl
- Ceilings – teak trimmed padded vinyl
- Counters – cut composite
- Cushion covers – vinyl skins
- Natural ventilation – opening appliances
- Powered ventilation – not found
- Fixtures – serviceable
- Test performed – doors, drawers and fixtures operated as required to perform inspection

Entertainment equipment

Condition/appearance: average Exceptions noted: **yes** (see summary remarks & notes)

Locations/descriptions:

- Forward stateroom – TV/DVD (Insignia 19”)
- Main cabin:
 - TV (LG 26”)
 - Stereo (Bose)
- Aft stateroom – clothes washer/dryer (Splendide 2100XC)
- Inside lower helm console:
 - Direct TV receiver

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- Raymarine satellite antennae control unit
- Flybridge – stereo (Jensen MCD5070)
- Test performed – operated TVs and stereos

Galley & household equipment

Condition/appearance: average or better Exceptions noted: yes (see summary remarks & notes)

Locations/descriptions - Located in galley except as noted:

- Double sink (stainless-steel)
- Trash compactor (Broan 1055-C)
- 3-burner range/oven (Force 10 LPG)
- Refrigerator/freezer (Nova-Kool RFU9000 AC/DC)
- Microwave (Tappan)
- Ice maker (U-Line ULN-BI95BTP-03)
- Test performed – attempted to operate all

Sanitary system

Condition/appearance: above average Exceptions noted: none

Locations/descriptions:

- Quantity - two
- Manufacturer – Dometic Vacuflush
- Type – 12-volt marine toilet, freshwater rinse
- Y-valves (direct overboard discharge) - none
- Vented loops (if required) – n/a
- Test performed – both toilets flushed several times

Air-conditioning

Condition/appearance: average or better Exceptions noted: none

Locations/descriptions:

- Quantity - three
- Manufacturer – Marine Air Systems
- Type – self-contained heat pump
- Controls – digital with LED readout:
 - Forward stateroom port side
 - Pilothouse aft end
 - Galley sink cabinet inboard end
- Equipment – each area with controls
- Cooling pump – engine room aft end port side (March Pump AC-5C-MD 230V)
- Test performed – Delta-T measured on cool program

TANKS, PIPING AND RELATED

(Capacities listed in this section are based upon published specifications for this model unless stated otherwise. Accuracy of tank level monitors should be verified prior to relying upon their readings.)

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Fuel

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

- Tanks – 600-gallon capacity aluminum contained in two tanks secured engine room outboard side
- Fills – side decks amidships (2)
- Vents – hull sides
- Plumbing materials – USCG Approved Type-A1-15 hose
- Shut-off valves – tank outlets
- Filters – engine room aft end port side:
 - Engine (dual Racor 900)
 - AC generator (Racor R12T)
 - Fuel polisher (Racor 1000)
- Pumps – fuel polishing system (ESI CFS-1000FRE-RF)
- Level gauges – tank sight gauges
- Test performed – examined for evidence of leakage and excessive corrosion

Potable water

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

- Tanks – 200-gallon capacity aluminum secured in lazarette forward end
- Fills – cockpit port side (1)
- Vents – hull side
- Plumbing materials – plastic tubing
- Shut-off valves – various locations
- Filters – screen at pump inlet
- Pressure pump – lazarette port side (Jabsco Par-Max 4 31631-7092)
- Accumulator tank – not found
- Water heater – engine room forward end port side (Kuuma KWHTR11A120HFFA150 [11-gallon, 120-volt & engine heated])
- Dock water connection – not found
- Level gauges – lower cabin by desk & tank sight gauge
- Test performed – operated pressure pump and verified water heater working

Black water

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

- Tanks – 45-gallon capacity integral fiberglass located in keel forward of engine
- Deck fitting – stbd side deck amidships (1)
- Vents – hull side
- Plumbing materials – sanitary hose
- Y-valves – none
- Overboard valve – engine room forward end stbd side

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- Discharge pump – engine room forward bulkhead (Whale Gulper Toilet Pump)
- Vented loop (if required) - none
- Treatment device - none
- Level gauges – lower by desk
- Test performed – verified discharge pump runs

LPG/CNG system

Condition/appearance: average or better Exceptions noted: none

- Storage locker – aft deck port side
- Tank quantity, material & capacity – 2 x aluminum WC-23.8
- Solenoid valve, regulator, pressure gauge and control - yes
- Leakage test (should hold steady pressure for three minutes) - **Passed**

Comments - Periodic leak testing of LPG system is recommended: (excerpt from ABYC A-1: With the appliance valves off, open the cylinder supply valve. Close the cylinder supply valve. Observe the pressure gauge reading. The pressure indicated should remain constant for not less than three minutes. If any leakage is indicated by a drop in pressure, check the entire system with a leak detection fluid or detergent solution to locate the leak. Test solutions shall be non-corrosive and non-toxic. Repairs shall be made before retesting and operating the system).

ENGINES, AND ENGINE AND VESSEL CONTROLS

Engines

Condition/appearance: average or better Exceptions noted: none

- Location - amidships
- Type/description – diesel 4-cycle 6-cylinder turbocharged aftercooled
- Cooling system – closed loop freshwater, raw-water cooled heat exchanger
- Power transmission – close coupled straight-drive
- Mounting:
 - Foundations – hull stringers
 - Beds – stee brackets
 - Mounts – adjustable vibration isolator type
- Cleanliness – average or better
- Fluid levels and condition – visual inspection of the following (full/low/add):
 - Engine oil – full/normal
 - Engine coolant – full/normal
 - Transmission oil – full/normal
- Accessibility - good
- Test performed – examined the following:
 - Throttle engagement idle/full
 - Cold start
 - Exhaust smoke
 - Raw-water flow
 - Noise/vibration
 - Leaks
 - Charging

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Exhaust systems

Condition/appearance: above average Exceptions noted: none

- Exhaust manifolds – freshwater cooled cast iron
- Riser/mixing elbow – stainless-steel with raw-water sprayed discharge
- Exhaust fittings – fiberglass elbows
- Muffler – fiberglass can
- Exhaust outlet – transom stbd side (integral fiberglass)
- Straight runs – fiberglass pipe
- Connection of fittings – black rubber hose
- Hose connection clamps – double stainless-steel
- Test performed – examined for evidence of damage and leakage

Engine ventilation

Condition/appearance: average Exceptions noted: none

Location & type:

- Thru-hull vents – hull sides amidships
- Powered – none
- Test performed - none

Engine controls

Condition/appearance: above average Exceptions noted: none

- Locations – upper & lower helms
- Manufacturer/model – Mercury SmartCraft
- Description – single lever type electronic
- Neutral safety interlock (prevents starting in gear) – yes
- Test performed – observed controls being used at both helms

Engine instrumentation

Condition/appearance: above average Exceptions noted: none

- Locations – upper & lower helms
- Manufacturer – Mercury Smartcraft VesselView
- Type – color graphical data displays
- Alarms – yes
- Test performed – observed working during trial-run

Steering

Condition/appearance: above average Exceptions noted: none

- Locations – upper & lower helms
- Manufacturer/model – Teleflex Capilano
- Description – wheel type manual hydraulic
- Reservoir – integral to helm units
- Test performed – operated lock to lock upper & lower helms, observed in use during trial-run

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EQUIPMENT

Pumps dewatering and utility

Condition/appearance: average or better Exceptions noted: **yes** (see summary remarks & notes)

Type & location – DC electric unless noted otherwise:

- Forward stateroom below sole:
 - Dewatering (Rule 2000 gph)
 - Sump box (Whale Gulper Toilet Pump plumbed to integral fiberglass box)
- Engine room keel sump – dewatering (Rule 2000 gph)
- Lazarette:
 - Dewatering (Rule 2000 gph)
 - Raw-water washdown (Jabsco Par-Max plus 82500-0092)
 - Seakeeper cooling (Prime Time PT-230VT-50/60W)
- Test performed – all pumps operated

Rigging utility

Condition/appearance: average or better Exceptions noted: none

Type & location:

- Signal mast – upper deck forward end (aluminum with hinged base)
- Tender crane – upper deck stbd side aft end (Steelhead Marine WD800)
- Test performed – crane boom articulated, and winch operated

Windlass

Condition/appearance: average or better Exceptions noted: **yes** (see summary remarks & notes)

Descriptions (windlass located at foredeck unless noted otherwise):

- Manufacturer/model – Lofrans Tigres
- Type – 12-volt horizontal with wildcat, warping head & emergency wheel
- Control locations – foredeck & helms
- Battery service-disconnect – forward berth stbd side
- Overcurrent protection – battery disconnect is a breaker
- Clutch lever location – helm lounge seat footrest
- Test performed – anchor lowered to water, controls operated at all locations, clutch released to freefall anchor, anchor returned to rest position
- **Comments – suggest periodic operation of windlass freefall function to ensure it will work if needed**

Accessories

Condition/appearance: average or better Exceptions noted: **yes** (see summary remarks & notes)

Description:

- Oil changer – engine room aft bulkhead port side (Groco U-Lube 12-volt 3-valve)
- Fuel polisher – engine room aft bulkhead port side (ESI CFS-1000FRE-RF)
- Hydronic heater – lazarette port side (Steuergerat 12V Hydronic 10)
- Radar reflector – flybridge helm console stbd side (aluminum globe)
- Gyro stabilizer – lazarette centerline (Seakeeper 6)

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- Test performed – all equipment operated except hydronic heater

ELECTRICAL SYSTEMS

Galvanic corrosion protection

Condition/appearance: above average Exceptions noted: **yes** (see summary remarks & notes)

Descriptions:

- Anodes (zinc unless noted otherwise) – quantities each location:
 - Thrusters (1)
 - Propeller shaft (1)
 - Rudder shoe (1)
 - Rudder (1)
 - Transom (2)
- Bonding system - yes
- Galvanic isolators/Isolation transformers – not found
- Test performed – examined condition of protective anodes and bonding cables

AC electrical system

Condition/appearance: above average Exceptions noted: **yes** (see summary remarks & notes)

Locations & descriptions of significant components:

- Voltage – 240 & 120
- Inlet types & locations – foredeck & aft deck (240-volt, 50-amp each location)
- Inlet circuit protection location (within ten feet unless noted otherwise) – inside forward berth and lazarette
- Main panel:
 - Location – lower cabin aft end stbd side by desk
 - Instrumentation – digital multimeter
 - Source selector switches – rotary type
 - Reverse polarity indicator - yes
- Condition of shore cord – above average
- Condition of shore cord inlet – above average
- GFCI protection – yes
- Tests and examinations:
 - Shoreline output - normal
 - Generator output - normal
 - Inverter output - normal
 - AC/DC grounding connection – not checked
 - AC current leakage <30ma – not checked

DC electrical system

Condition/appearance: above average Exceptions noted: none

Locations & descriptions of significant components:

- Voltage – 12
- Panel locations – lower cabin aft end stbd side by desk & pilothouse

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- Panel instrumentation – digital multimeter
- Branch circuit protection – breakers & fuses
- Main disconnect switch – main DC panel
- Primary circuit protection – main disconnect is a breaker
- Test performed – various DC equipment operated

Alternating current generators

Condition/appearance: above average Exceptions noted: none

Description:

- Location – engine room aft end
- Engine type – diesel 4-cycle 4-cylinder naturally aspirated
- AC generator mounting – close coupled
- Circuit protection:
 - Generator – yes (stbd end)
 - Main panel – yes
- Accessories – drip pan, sound shield & remote start/stop
- Fuel, exhaust, cooling water and electrical connections – serviceable
- Vented loop (may be necessary for deep draft installation) – n/a
- Test performed – operated during trial-run

Battery charging devices

Condition/appearance: average or better Exceptions noted: none

Locations/descriptions:

- AC electric – engine room forward end stbd side:
 - House (see inverter section that follows)
 - Engine & thrusters (Xantrex TC4012)
- Alternators – engine
- Renewable – none
- Controllers – n/a
- Test performed – observed equipment working

Inverters

Condition/appearance: average or better Exceptions noted: yes (see summary remarks & notes)

Locations/descriptions:

- Location – engine room forward bulkhead stbd side
- Make/model – Xantrex 458 81-2010-12
- Output:
 - AC power (2,000-watt)
 - DC current (100-amp)
- Battery disconnect location – not found
- Battery overcurrent protection location & type – adjacent to inverter (fuse)
- AC output bypass (returns inverter supplied circuits power source to main buss) – not found
- Inverter cautionary label – inverter control is adjacent to main panel

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- Test performed – operated as an inverter and charger

Storage batteries

Condition/appearance: average or better Exceptions noted: **yes** (see summary remarks & notes)

- Batteries – AGM types secured in covered boxes at the following locations:
 - Bow thruster – forward stateroom below sole (2 x Group-31)
 - Engine start – forward of engine (2 x Group-31)
 - House – engine room forward end stbd side (6 x Lifeline GPL-6CT)
 - AC generator – engine room aft end stbd side (Group-24)
 - Stern thruster – lazarette stbd side (2 x Group-31)
- Disconnects – remote control relays
- Test performed – batteries conditions evaluated using Midtronics conductance type tester

Comments:

- **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 Exceptions noted: none

- Flybridge:
 - Magnetic compass (Ritchie)
 - Multifunction display (Raymarine C90/w)
 - Autopilot control (Raymarine ST6002)
 - Digital data (Raymarine i50)
 - VHF mic (Icom HM-157SW)
- Pilothouse:
 - 3 x windshield wipers & irrigators
 - Magnetic compass (Ritchie)
 - Multifunction displays (2 x Raymarine C140/w)
 - Digital data (Raymarine ST70+)
 - Autopilot control (Raymarine ST70+)
 - Handheld VHF (Icom)
 - Wireless autopilot control (SmartController)
 - VHF radio (Icom IC-M604)
 - Digital data (Raymarine i50)
 - Searchlight remote control (Guest)
- Autopilot pump – top of rudder table
- Autopilot compass – forward stateroom below sole stbd side
- Test performed – all equipment operated during trial-run

SAFETY EQUIPMENT

(Items in this section checked for compliance with Code of Federal Regulations & ABYC Standards)

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Fire safety equipment

Equipment types and quantities USCG compliant **yes** (due for service):

- Fixed – engine room forward end port side (Fireboy CG2-500-FE241 [indicated fully charged])
- Fixed fire system indicator – helm consoles
- Fixed fire system manual activator - none
- Portable handheld USCG Approved Sizes located as follows – (indicated fully charged):
 - Forward stateroom stbd side (2019 2.5-lb. dry chemical)
 - Main cabin forward end stbd side (2019 2.5-lb. dry chemical)

Gas detection systems

Equipment types and quantities compliant **no**:

- CO/smoke – not found
- LPG – not found
- Test performed – n/a

Emergency bilge pumps and high-water alarms

Configuration compliant **yes**:

- Dewatering pumps – vessel is equipped with three
- Audible alarms – yes (engine room)
- Test performed – operated all pumps and alarm

Signaling devices

Equipment types and quantities compliant **yes**:

- Distress signals – one of the following required:
 - Pyrotechnics – pilothouse lounge seat footrest (expiration: 12/2026)
 - Electronic & flag - pilothouse lounge seat footrest
- Sound signaling devices – one of the following required:
 - Hull mounted sound - yes
 - Handheld sound – pilothouse lounge seat footrest
- Epirb – not found
- Test performed – verified handheld horn and electronic beacon work

Navigation lights

Configuration defects: **none** Function: **normal**

- Side – pilothouse roof forward end
- Mast head/anchoring – top of mast
- Stern – upper deck aft end
- Test performed – verified all are working

Flotation devices

Condition/appearance: **average or better** Equipment types and quantities compliant **yes**:

- Lifejackets – flybridge lounge seat base (4 x Type III)

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- Throwables – upper deck aft end (Lifesling 2)
- Liferafts – not found
- Immersion suits – not found

Ground tackle

Condition/appearance: **above average** Equipment types and quantities compliant **yes**:

Locations/descriptions:

- Ready anchors & rodes – in chute:
 - Rocna 33-kg. all chain rode
- Back-up anchors & rodes – in chute:
 - Claw type 20-kg. long chain lead & laid nylon rode
- Bridles – pilothouse lounge seat footrest

Additional required (non-safety)

Equipment types and quantities compliant **yes**:

- Pollution placards (Vessels 26 feet and over with a machinery compartment) – yes
- Marpol Trash Placard (Vessels 26 feet and over) – yes
- Written trash disposal plan (Vessels 40 feet and over) – yes
- Navigation rules (Vessels 39.4 feet and over) – yes
- Vessel identification locations:
 - HIN – transom upper stbd corner
 - Documentation # - n/a
 - Registration # - desk area
 - Name - transom

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SUMMARY REMARKS AND NOTES

Items on the following lists are grouped into several categories according to the surveyor's opinion of their importance:

- **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.**
- Underlined items should be considered for timely action at your convenience.
- 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, and value.

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. None currently.

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:

2. Shore power system does not appear to be equipped with galvanic isolator or isolation transformer; install one to provide added measure of protection from galvanic corrosion when shore power is in use.
3. **Shore power cord boat end lock ring is missing; replace missing lock ring.**
4. DC to AC inverter does not have a battery service disconnect; install disconnect to provide quick convenient means to disconnect the inverter from the batteries when necessary.
5. House battery bank does not have a master disconnect switch; install disconnect to provide quick convenient means to disconnect the house batteries when necessary.
6. **Fixed and portable fire extinguishers are due for inspection; a full maintenance check should be made by a qualified fire extinguishing service facility in accordance with the maintenance instructions on the name plate of the extinguisher. A tag should be attached showing the date of such maintenance check.**
7. **Serviceable CO/smoke alarms not found aboard; install at least one lower cabin and main cabin in the vicinity of the galley.**

SUGGESTED REPAIRS AND/OR CHANGES

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

8. Above waterline & related:
 - a. Flybridge helm cover snap stud is missing on stbd side of flybridge; replace missing snap stud.
9. Hull below waterline & related:
 - a. Propeller shaft seal drips when underway in gear; service as necessary if leakage becomes excessive, replace during next scheduled haul-out if leakage cannot be stopped.
 - b. 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

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installation of plastic shield over seal rotating collar to contain mist and direct it downward to bilge.

- c. Engine basket strainer plastic bowl has oozing leak; service as necessary to stop the leakage.
 - d. AC generator exhaust gas discharge seacock would not move with application of reasonable effort; service as necessary to restore its normal function (it discharges just above the waterline).
10. Accommodations, household systems & comfort systems:
- a. Forward stateroom port side lower locker door does not sit against the cabinet flush when closed; adjust or replace bent hinges as necessary.
 - b. Bilge light below forward stateroom is inoperative; service as necessary.
 - c. Aft stateroom sole varnish has bare area in middle; refinish to match.
 - d. Aft stateroom aft bulkhead and desk area each have a bulkhead light not working; service fixtures as necessary.
 - e. Trash compactor and icemaker are inoperative; service/replace as necessary.
 - f. Flybridge stbd side stereo speaker is damaged; replace with new.
11. Tanks piping & related:
- a. Potable water tank sight gauge hose is fouled; replace with new so that level is readable.
12. Engines, controls & related:
- a. Separate detailed mechanical survey of engine and AC generator was performed to ascertain their condition with no significant negative findings reported during survey; perform service and maintenance required if any to ensure their reliable function.
 - b. Engine VesselView® fuel levels are not programmed; program VesselView® fuel levels.
 - c. Water heater is plumbed to main engine cooling system to make hot water while underway; install isolation valves on or near main engine where water heater hoses attach so they can be turned off when the engine heat is not needed to make hot water to avoid possible leakage and loss of main engine coolant that may result in overheating damage of the main engine.
 - d. Engine room hull vents allow regular exposure to dirt, pests, and circulation of damp air during periods vessel is not in use; suggest covering engine room vents when vessel is not in use to preserve and protect machinery from exposure related wear and tear.
13. Equipment & related:
- a. Bridle for hoisting tender appears lightly worn and relatively light weight for its purpose; suggest replacing with purpose made bridle.
 - b. Crane hydraulic hoses plastic outer covers are flaking off; replace crane hydraulic hoses with new.
 - c. **Windlass handle end is mushroomed and will not fit into emergency wheel; recommend keeping separate handles for releasing the clutch and operating the emergency wheel.**
14. Electrical systems & related:
- a. Engine start and house batteries tests indicates they are due for replacement; replace with new if their diminished capacity interferes with their utility or reliable use.
 - b. AC generator does not have a charger/battery maintainer; suggest installing one to ensure it remains charged.

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- c. AC generator does not have a battery service disconnect; suggest installing one to provide quick convenient means to disconnect it from the batteries when necessary.
15. Navigation equipment & related:
- a. Autopilot wireless control was not operated; prove its function.
16. Safety equipment & related:
- a. Vessel has one dewatering bilge pump in each compartment; suggest installing at least one additional in the engine room and portable to use for backup in other compartments.

(End of report photo pages to follow)

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

PHOTOS



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



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1738 PICKWICK PLACE-FLEMING ISLAND-FLORIDA-32003

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



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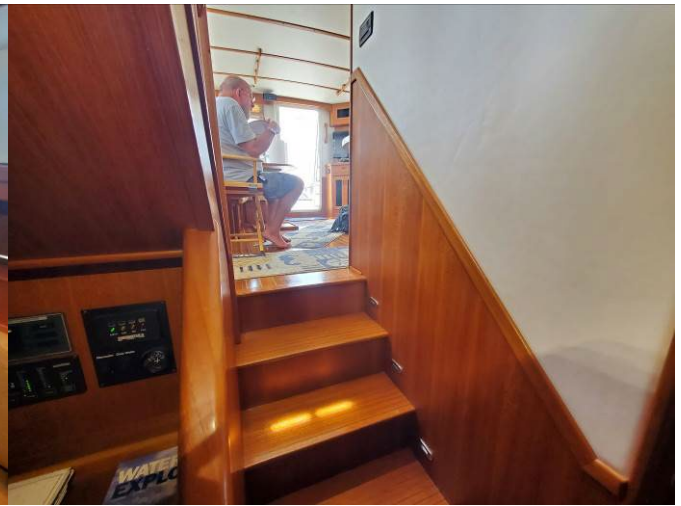
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