

Catamaran Survey Report

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Survey of:

44' Leopard Catamaran 2014



Evaluation Criteria, Terminology and Considerations.

A. This report has been prepared applying the knowledge and experience of the surveyor, after a visual examination of hull, rigging, machinery, equipment and other related items as mentioned in the report. Areas requiring tools for access have not been inspected, nor has any testing or inspecting, other than visual, been performed unless specifically stated.

B. Standards and codes considered in these evaluations and comments are established by the US Coast Guard (USCG), the Code of Federal Regulations (CFR), the American Boat and Yacht Council (ABYC), NFPA and other organizations involved in vessel construction and technical standards, however, it should not be assumed that the evaluation and this report address all aspects of any applicable standard or code.

C. As much information as is considered practical has been included in this report, but no attempt to compile a complete inventory was made unless specifically stated nor are necessarily all what may be considered to be damage or flaws mentioned. In some cases "Model Numbers and/or Serial Numbers are listed (if they can be accessed and are legible).

D. The Client has acknowledged and agreed that the vessel inspection and report does not constitute an engine or rigging survey nor is it a 100% review of all conditions, systems and equipment, rather the inspection and report is a general review of the vessel and her equipment on the day in question. Reporting on unseen flaws, degradation, inaccessible features and conditions, subsequent changes or modifications are beyond the scope of this inspection. *Refer to Survey Agreement*

Miscellaneous Terms, Acronyms and Abbreviations

CFR: Code of Federal Regulations

FBG or FRP: Refers to fiberglass reinforced resin or any combination of or types of resins.

STBD Starboard

CTR/Ctr= Center

VDC / DC Volts, Direct Current

AC = Alternating Current

Sea Trial: For the purposes of this inspection and report is defined as the functional operation of the vessel in any body of water whether under sail or power or both.

Fair Market Value (FMV) is the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of relevant facts.

Hard Starting (Engine) for the purposes of this inspection & report, a hard starting engine would mean an attempt to start in which several attempts would be required consisting of at least 30 seconds each.

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Pleasure Vessel Survey

Survey for:

Inspection Date:

Mailing Address :

Phone :

Vessel Name:

Home Port: State USA Model/Year: 2014 Leopard, Catamaran

Builder Robertson and Caine, Cape Town, South Africa

LOA **42.6'** Beam: **23.8'**, Draft: **4'2"** Mast Height: **62'** Approx. from water
(Mast Height Said To Be Modified From Original Equip)

Hull ID Number **ZA RAC23456789**

Documentation Number 12345678 No State Registration

Displacement: 27,800 pounds Source of Figures: R&C Website

Rating: Builders Plaque rates the vessel for 2900 kg, Crew, Passengers & Gear

Location of Vessel: Marina xyz

Survey Objective : Condition & Value pending purchase.

Circumstances Survey attended by perspective buyers: Mr. & Mrs Buyer
None Others, No Broker Involved In This Sale.

The surveyor has no previous sailing experience on this vessel.

Other Significant Identifying Features

Blue "Sail Pak", Large hard top covering entire cockpit with elevated helm station. Vessel name & logo painted Starboard side, transom. White hull and decks with solar panels affixed to the salon and cockpit decks. A Satellite dome is mounted on pole, port side aft. This model includes a "walk-out" companionway to forward cockpit.



No determination of stability or structural integrity has been made and no opinion is expressed thereto. The survey was conducted without cleaning, cutting or grinding of any surface, or unbolting or unscrewing access to equipment or utility spaces. The report represents the condition of the vessel on the dates specified above, and is the unbiased opinion of the undersigned surveyor, but is not to be considered an inventory or a warranty, either specified or implied.

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A. Hull Exterior

Hull Material:	Fiberglass - Cream or "Off White" color, Original gel coat. Other areas of hull would benefit from wash and wax. Otherwise, generally the hull and decks are in above average condition. Observed no chips, cracks or soft spots in decks or cabin top..
Hull Accents / Boot Stripe	Red and Black Stripes full length of each hull outboard.
Paint or Laminate Blisters:	None observed above or below water line.
Repairs above WL:	No evidence of damages or previous repairs to hull was observed.
Finish & Sounding (Below Waterline)	No evidence of grounding observed. Antifouling paint follows waterline and appears intact, not scraped or chafed. The vessel was found "hailed out", reportedly for several months. The buyer should be aware that some manufacturers state that their antifouling paints lose effectiveness after haul out for certain period of time.
Keels	Keels are molded to and contiguous with hulls.
Propeller Shafts	Vessel Fitted with Sail Drives. See Engine section.
Shaft Seal/Stuffing Box	NA
Propellers	3 Blade, Bronze Feathering Propellers. No Damage, New Cond.
Galvanic Protection:	Props fitted with Ring and Cone Anodes.



Trampoline bed in average condition.
Grommets and lacing intact, in average condition.

B. DECK and Cabin Top

Decks: `	Cored decks with original gel coat undamaged, no chips or cracks observed. No indication of delamination or soft spots, decks, including non-skid surfaces in above average cond.
Handholds	Hand rails along cabin top and cockpit top, P&S with hand holds at steps up to cabin top. Hand rails also at stepped transoms. See Photos, Page 22/23.
Hatches & Gaskets	Deck hatch lenses in good condition, no cracks or crazing observed. Salon and cabin windows also in good condition with the exception of a 4 to 5" crack at the bottom of the port side forward salon window. No evidence of previous leaks observed.



Emergency Escape	24" square hatch installed in salon floor.
Railings & Lifelines	1" tubular stainless steel stanchions with two rows of wire lifelines. Undamaged, fasteners intact. Bow railing includes a "seat" both P&S sides. Lifelines supported by 5 stanchions per side including two gates. Large cockpit enclosed by seating and coaming, port and starboard however the stern has no railing or lifeline. The tender, hanging from davit forms a barrier in lieu of a stern life line.
Toe Rail	Approx. 1" high aluminum extrusions, undamaged fasteners intact.
Trip Hazards	Given the coamings, hatches, trampoline and other features typical of a vessel of this type, potential trip hazards are many..
Cleats	Three large aluminum cleats bolted to deck P&S and two smaller cleats mounted on aluminum cross beam at bow.
Sailing Winches	Primary winches (2) installed directly at helm station are 12 VDC Lewmar self tailing. Controlled from foot switches. Observed to raise main and head sails.

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Cars & Blocks	Main Sheet Car system mounted to cabin top, all portions intact and functional.
Windlass	"Quick", 12 VDC, Windlass with 3/8" chain gypsy and remote control. Windlass breaker located beneath sink in galley. Windlass observed to function briefly from remote control however full capabilities not demonstrated. Anchor was not deployed.
Ground Tackle #1	3/8" Galvanized chain in average condition with ROCNA 55 lb. anchor. Chain said to be 225' in length.

Cockpit

Footwell & Seating	All molded FRP. Observed no nicks, cracks or scratches to footwell, seating and coamings. Sunbrella covered foam cushions for cockpit seating found in port aft cabin. Individual sections appear in good condition.
Storage	Aft facing seat locker contained Life raft, Flares and other accessories. Center cockpit seat locker contains house batteries. Although there is little room for anything else, observed cleaning supplies and misc. items stored in this locker and atop batteries. Battery terminals covered. See <i>Electrical</i> for Battery Information. One additional cockpit locker dedicated to LPG cylinder storage and controls. Locker drains overboard. <i>See Fuel Section For LPG</i> Locker hinges and hardware intact and functional.
Deck Fills	1 Diesel, Port and Starboard outboard of cockpit near stern. Water fills directly into tanks inside foredeck lockers. Waste fitting is starboard side forward of salon.
Salon Entry	Aluminum track and aluminum frame sliding doors. Door latches open and closes evenly and locks with key lock. Electronic alarm installed. <i>Safety Note: when sliding door is open it should always be firmly latched to prevent accidental movement.</i>
Canvas & Covers	Raised helm station fitted with clear, zip up flexible windows all around. Premium clear material reported as 40 gauge <i>stratoglas</i> . Average condition. No sun awnings or other covers or canvas observed on board.
Cockpit Lighting	Recessed LED fixtures observed to function. Two aft facing security flood lights installed to illuminate entire cockpit.
Water Access	Hull features swim platforms both Port and Starboard. Port side includes fold down stainless steel swim ladder securely installed to hinge up for storage.

C. Standing & Running Rigging *The undersigned surveyor performed inspections at deck level, as described below. This information shall not be construed as a "Rigging Survey".*

Mast:	Height from water reported as 62'. Anodized Aluminum deck stepped mast. Areas viewed were free of corrosion and in average condition. No cracks observed. Diamond configured spreaders aloft. No mast steps.
Boom	Gooseneck, fittings, fasteners and blocks appear to be original equipment and in average condition. No obvious signs of wear or fatigue. Main sail clue lashed to end of boom in lieu of outhaul. Other lashings and scraps of line at gooseneck. <i>Recommend: Remove sail pack, fully inspect boom and all fittings and features, re-rig, reinstall Sail Pack.</i>
Chain plates	Polished stainless steel chain plates anchoring stays outboard of hulls, Port & Stbd. No interior access to inspect fasteners or bonding. Visible areas were clean and free of corrosion.
Forestay:	Profurl roller furling system. Genoa installed for sea trial, found shackle missing at "tack".
Cross Beam	Cross Beam with bolt on A frame and 5/8" wire assembly. Areas examined were clean, free of visible cracks and in average condition.
Turnbuckles	Crome plated bronze in average condition. At deck level, turnbuckles, swages and toggles appeared in average condition, Observed no cracks. Turnbuckles fitted with cotter pins, at least one not properly installed and not taped.
Running Rigging, Blocks & Fittings	Halyards, sheets and other lines in average condition. Blocks and fairleads were, at time of this inspection, functional and in average condition. Observed the rope clutches installed at the helm function as intended. Lines generally ran freely through blocks and clutches however, the Genoa sheet was caught around the forward edge of companionway slider at forward cockpit. <i>Photo Next Page</i>
Traveler	Installed on cockpit hardtop, operable in average condition. <i>Photo Below</i>



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Genoa

Sheet Caught At Forward Companionway Slider.
Keep Slider Full Closed When Sailing



Main Sail Tack Lashed To Boom In Lieu of Outhaul

Davit

Polished stainless steel, single frame davit, hinges at brackets on deck to lift, support and launch tender off stern. Tender is stored for transits suspended from davit and lashed to stern. Retrieval and lifting is accomplished by a single, 1/4" spectra braided line that shows wear. Line winds up on small 12 volt winch installed in a small covered, recessed area overhead, in cockpit hard top. This small winch and motor shows rust otherwise, it's condition is unknown. *Recommend, at a minimum, the winch & motor be inspected, cleaned and painted. Anticipate spare parts.*

D. Sails (Dacron)

Main Reported as 796 ft2 with 2 Reef points, Color: White, condition is average. Portions soiled from mold, in need of cleaning.

Genoa Reported as 796 ft2. Above average condition. At the time of this inspection the sail was installed from storage below. Appeared clean, no repairs observed.

SAIL PACK Blue Sunbrella Sail pack (lined) installed on the boom providing a full length zip enclosure intended to protect the main sail from damage by ultraviolet (UV) rays. Interior shows mold. Some portions of zippers in need of restitching, overall in average condition. [Recommend removal, cleaning, repairs as needed.](#)



E. Steering

Rudders

Sounding reveals no evidence of delamination in the rudders.

Found both rudders had approximately 1/2" side x side play and 1/4" to 3/8" fore and aft play. Rudder shafts are supported at the hull by aluminum tubes and at the top end by bearings installed on the under side of deck. Seal provided by aluminum tube which rises above the waterline. Welded Aluminum arm keyed to shaft, fasteners appear tight.



(Left) Rudder Shaft Tube & Hull Support



(Right) Upper end of shaft & bearing with tiller arm assembly.

Steering Gear

Tie-rods, cables, linkages, terminations were clean, fasteners tight.

When the helm is turned to port or starboard, the cables can appear excessively loose, however, cycling the helm through "center" shows the cables are adjusted properly. Do not store in supplies or accessories in the utility space occupied by steering cables and tie rod.

Stainless Steel Helm by "Edison". No evidence of cracks or rust.

It is important to conduct regular inspections of all portions of the steering system to include close check for broken strands of wire in cables.

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Emergency tiller:	Not observed on board.
Auto Pilot	Electronic system by Raymarine. Observed to maintain vessel heading in calm conditions. Rudder feed back mechanism installed on starboard rudder shaft. <i>See Electronic Navigation.</i>
Maneuverability	Through the use of both engines and rudders, observed the vessel to effectively maneuver in close quarters.
Visibility From Helm	Good visibility to starboard and aft. View to port is somewhat obstructed. .It is essential to maintain a sharp lookout at all times. <i>Ref: 33 CFR, USCG Rule 5</i>



F. Vessel's Interior

Entering salon from aft cockpit, Galley is to Port, Settee and cocktail table to starboard.



Note Companionway Exit To Forward Cockpit (Right Side Photo)



Spaces clean, surfaces and furnishings in above average condition.

Bulkheads &
Companionway Doors

Observed NO evidence of buckling, cracks or water damage.
Doors close evenly and latch. Drawers slid in and out smoothly.

Head Liner

Molded laminate and naugahyde: clean, no evidence of water damage.

Cabin Sole

Undamaged, in good condition.

F. Interior continued

Windows & Ports	Large fixed windows forward have small opening ports installed within. Port & Stbd sides have two large fixed tinted windows each. Port forward window is <u>cracked</u> (see page 6).
Upholstery	Tan Naugahyde, clean, above average condition. Mattresses reported to be upgraded HMC Queen "System 4" Bamboo plush-top mattress and innersprings with hinged option in owner's cabin. Custom fitted linens (2 sets) and mattress pad included, found stored in sealed bags.
Galley Equipment	Three burner Force LPG stove with oven. Clean and in above average condition.
Galley Surfaces	Counter tops are Corian. Clean and undamaged.
Galley Sink & Faucet	Double stainless sink and faucet, no signs of leaks, clean and in good condition.
Storage	Cold and dry storage for provisions and utensils which include pots, pans and place settings.
Ventilation of Galley	Forward opening ports and companionway doors provide cross ventilation when doors are open.
Refrigeration	Two top loading fridge "drawers" by "Vitrifigo" installed in cabinetry. An additional cold drink fridge drawer installed beneath salon seating. Refrigeration functions not demonstrated.
Air Conditioning	Two 16,000 BTU Cruiseair units installed beneath salon seating. Both powered up from shore power and observed to cool. Full cooling capacity not demonstrated. Good access for maintenance. Raw water pumps (115VAC) for each unit installed in bilge spaces, port & stbd.



Entertainment	Three flat screen TV's installed in salon and cabins. KVH TracVision satellite television system with KVH 72-0412 Multi Switch and Kato Stainless Steel external pole and mount. Directv IFR receivers for all TVs, with DVR function for salon receiver. Fusion Stereo with cockpit remote control with Fusion and Bose speakers.
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G. Plumbing

Note: The ability to quickly locate and close all through-hull valves is important to safety. Though hull valves should be checked monthly by fully closing and fully opening, lubricating and cleaning as necessary to maintain full range of operation.

Through Hull Fittings & Valves	Port side =3 below water line, Starboard side = 5. All fittings and valves are plastic.
FW Tanks	Two tanks secured in forward lockers, Capacity reported as 206 Gal. total. No evidence of leaks. Tanks are filled from fittings inside forward lockers. Tank monitoring system installed, function not confirmed.
Reverse Osmosis Water	Brand: "Spectra", Catalina 300 Mk II RO Water System. Unit installed in port side aft cabin beneath berth. Unit said to be currently "pickled" for storage - not demonstrated. No indication of previous leaks.
FW Pumps	Each head and sink and galley sink served by 12 VDC pumps.
Water Heaters	Marine grade heater located beneath port and starboard aft cabin berths. Heats by 115 VAC or engine recirculation. Observed to function at galley sink. No leaks observed at units.
Bilge Condition.	Bilge Pans were clean.
Manual Bilge Pumps	Two "Whale" manual diaphragm (EMERGENCY) pumps installed in companionway bulkheads port and starboard. Seller declined to add water to bilge to facilitate demonstration.
Bilge Pumps 12 VDC	Observed four 12 VDC "RULE" pumps installed onboard. All operate from float switches or manual override switches at breaker panel. Pumps installed beneath each cabin (P&S) have audible high water alarms activated by separate float switches installed higher in the bilge. Float switch at port engine was not securely anchored. <i>During sea trials float switches for both port and starboard cabin bilge pumps were non functional. Subsequent troubleshooting revealed blown fuses behind the breaker panel. Recommend labelling panel identifying the location of these fuses. Blown fuses may indicate a problem with the pump, float switch or circuit.</i>
HEADS	Heads installed port and starboard cabins. Each includes electric toilet, sink and shower. Starboard head has a large enclosed shower. All found to be clean, free of odors, with faucets, knobs, and switches intact. No waste treatment system observed.

Large, easily seen bilge pump warning light at breaker panel.



H. Electrical Systems

12 V DC and AC - Ships Power

Battery Systems:	Vessel equipped with separate systems for engine starting and house loads. Four, 8D size, 12 Volt sealed, Lifeline batteries are secured in cockpit seating as house bank. Terminations tight, no terminal fuses. Each engine has a dedicated start battery secured within each engine compartment.
Battery Switches	Battery systems isolated by marine grade vapor and spark proof selector switches. One for each engine located in aft cabins.
Distribution Panel	AC and DC loads distributed from a central circuit breaker panel. Panel includes functional analog meters for battery voltage and current.
Charging & Solar Panels	Engine mounted alternators or solar panels installed on top of salon and cockpit hard tops. Wiring of solar panels is exposed and unprotected. Wire connectors create a slip hazard and should be covered. Solar panels are thin, walk-on type. Solar system controlled by "Midnite" unit installed on bulkhead in port cabin. Output reported as 1280 watts. Equipment not demonstrated.
Interior Lights	Recessed fixtures in salon with LED bulbs - working. Lighting in heads and cabins also observed to function.
Security	Electronic security installed.
Bonding	Observed no grounding or bonding system at fuel tanks or rudder shafts.

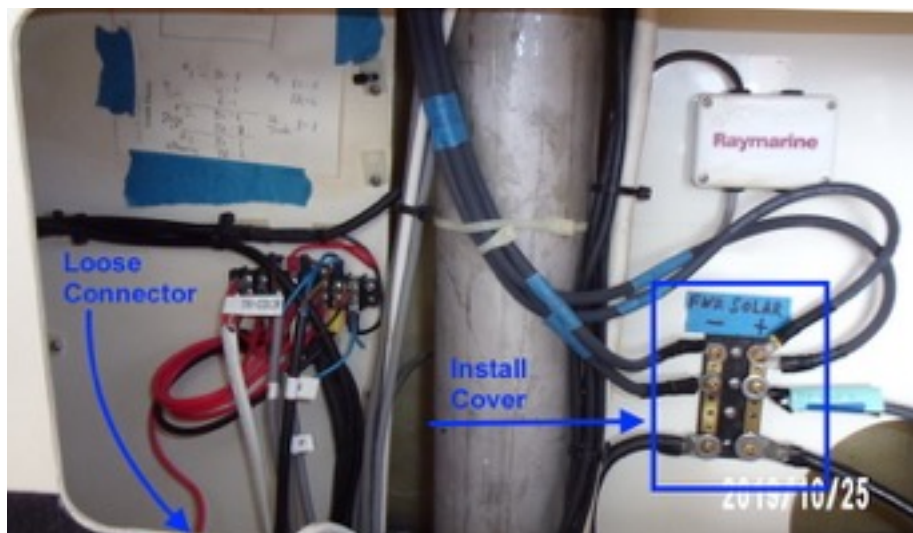
AC Shore Power Electrical System and Equipment

Shore Power	Two 30 Amp, 115 VAC circuits available for connection to dock power. Cords are US type in average condition.. Observed meters, breakers and other functions on 115 VAC portion of panel to operate from shore power. Equipment and systems supplied by some branch circuits not demonstrated.
Main Breakers	30 Amp, (Double Pole) installed within main panel and fitted with "lock-out" sliders to isolate shore power from generator power.
Inverter / Charger	Magnum Inverter/Charger 2512-U (124A) with remote control ME-RC50. Xantrex Link-Pro energy monitor #84-2031-00.
Panel:	Professionally designed and constructed specifically for marine use including analog meters for AC Volts and Amps. Clean and in working order.
Convenience Outlets	Grounded 115 VAC outlets installed in salon, all cabins and heads. Grounded and GFI protected.
Generator:	Northern Lights 6.0Kw. Seller reports the Generator portion of unit is non-functional . Diesel portion of unit said to be seized so the entire unit said to be completely inoperable. Installed in bow locker.within sound proof enclosure. Draws fuel from starboard fuel tank.

I. NAVIGATION ELECTRONICS & EQUIPMENT

Note: Operation of equipment observed, accuracies not verified.

Compass	Plastimo, 150 unit installed at helm. No calibration or correction card.
Navigation Lights	Steaming light, Stern Light and Deck light observed to function. Bow light not functional, observed to be full of water. Stern light lens missing.
Nav Instruments	Depth, Vessel Speed, Wind Speed and Direction given in various displays installed at helm. Vessel speed available from analog sensor on hull or GPS.
GPS	Raymarine "CP" Hybrid Touch. LAT LON during sea trial. Accuracy not verified.
AIS	Raymarine AIS650 receiver/transmitter.
Radar	Raymarine RD418HD w/10M RayNet digital radar. Observed display to function during sea trial. Antenna mounted on mast.
Radio (s)	Standard Horizon VHF with Remote Mike at Helm. Radio hail for automated check responded to from station in York River. Raymarine SR150 Sirius/Weather receiver with Shakespeare SRA 40 antenna & splitters. Fusion Stereo with cockpit remote control with Fusion and Bose speakers. Observed to function, all features not demonstrated.
Electronic Autopilot	Electronic system by Raymarine. Observed to maintain vessel heading in calm conditions. Rudder feed back sensor installed on starboard rudder shaft.
Deck Lights	Aft facing 12 volt flood installed on satellite TV mast and mast mounted deck foredeck light. Observed to function.
Charts	Misc. chart books on board. Copy of Chart 1 publication on board.
Misc.	External light fixtures installed beneath aft deck did not function.



Mast Wires: Accessed In Salon. Secure loose wire, Install cover over solar power buss.
No "Lightning Down Conductor Observed".

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J. Engines

The engine has been examined superficially, observed and listened to at idle and while in-gear with the following comments:

Engines

YANMAR Model 4JH5X1, Naturally aspirated diesel rated at 39 hp.

Port

Hours: 124.7 displayed. [Seller reports 3 digit electronic counter has “turned over once” which would make total hours 1,123.7.](#)

Condition

No evidence of oil or coolant leaks. Observed no obvious fuel leaks. Exhaust system showed no evidence of leaks at engine connection, through fiberglass muffler connections to hull fitting.. Exhaust hose bears no markings or labelling. Many hose clamps installed presenting sharp tail of clamp as a hazard. Use proper size clamp and install so that sharp edges are not pointing up or out.

Engine mounts in average condition. Belts and hoses in average condition. Some hose connections have a single clamp (raw water strainer and others).

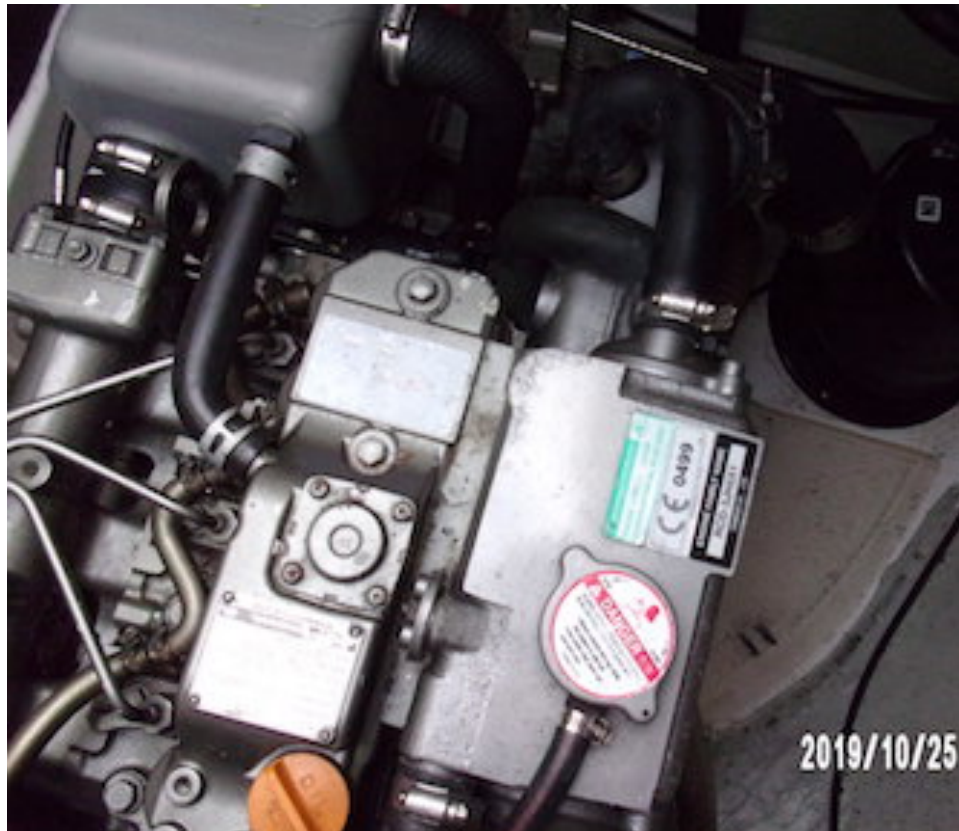
Engine oil was 1 quart low, transmission fluid & coolant were full. Samples drawn for analysis. Reported separately. Engine started easily from cold. Low oil pressure alarm sounded briefly. Shifting from neutral to forward and reverse without difficulty.

Engine & transmission appeared to operate normally during sea trial although **maximum RPM achieved was only 2600.**

[Seller reports normal operation is at approximately 1900 RPM since anything over 2,000 to 2,200 RPM results in overheating.](#)

Engine compartment was clean, in above average condition.

Rubber *hull to sail drive seal* (within engine compartment) appeared in good condition.



J. Engines continued

Starboard	Hours: 4916.5 Seller reports 3 digit electronic counter has “turned over once” which would make total hours 1,123.6 .
Condition	<p>No evidence of oil, coolant or fuel leaks.</p> <p>Exhaust system showed no evidence of leaks at engine connection, through fiberglass muffler connections to hull fitting.. Exhaust hose bears no markings or labelling.</p> <p>Engine mounts in average condition. Belts and hoses in average condition. Some hose connections have a single clamp. Many hose clamps installed presenting sharp tail of clamp as a hazard. Use proper size clamp and install so that sharp edges are not pointing up or out.</p> <p>Engine oil, coolant and transmission fluids were full. Samples drawn drawn for analysis. Engine started easily from cold. Low oil pressure alarm sounded briefly. Shifting from neutral to forward and reverse without difficulty.</p> <p>Seller reports normal operation is at approximately 1900 RPM since anything over 2,000 to 2,200 RPM results in overheating.</p> <p>Engine compartment was clean, in above average condition.</p> <p>Rubber hull to sail drive seal (within engine compartment) appeared in good condition.</p>
Low Oil Press Alarm	Both engines have alarms that function. Note: It is important to be able to hear alarms over ambient noise from wind and other sources when under sail.
Cathodic Protection	<p>Sail drives are fitted with three anodes each. Two ring types that attach to the drive behind the propeller and a cone type that attaches over the shaft nut.</p> <p>Condition as shown in photos below.</p> <p>Note: Yanmar recommends replacement at 100 hour intervals.</p> <p>Available information indicates this interval may be slightly extended however corrosion can be unknowingly accelerated due to many conditions including stray current that may be created by a number of actions and from various sources. The operator is advised to monitor anode condition closely and keep a record of inspection and anode replacement dates.</p>



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Eng. Rm Lighting	One fixture - working (both spaces).
Ventilation	12 VDC exhaust fan observed to functioned.
Fuel Gauges	Located at helm, observed to function.

K. Fuel Systems

Diesel in two aluminum tanks, total capacity reported as 185 Gal. Installed beneath aft cabin berths. Transfer pump installed port engine compartment to transfer fuel port to starboard. Reasonably good access for inspection & maintenance.

Fuel Filters	Single Racor installed within each engine room. No leaks.
Tank Fill Hose	Foreign origin, labelled, appears to be rated for fuel service. no signs of leakage. Double clamps in good condition.
Tank Vent Line	Tanks vented overboard.

Cooking Fuel

Two, 10lb Aluminum propane cylinders stored within vented locker in cockpit. Manifold includes 12VDC solenoid and gauge. 20 minute pressure test shows no loss in pressure. LPG supply to galley via hose (no markings), supply to stern rail mounted grill is copper tubing with valve.

Tender Fuel	Stored on board tender.
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L. Safety

Whether underway or at anchor it is important for all aboard to be mindful of handles and hand rails as they move about to prevent trips, slips and falls. The Captain has responsibility for everyone's safety.

Emergency Exit	24" hatch located in center of salon floor, Silicone sealant applied all around gasket.
Fire Control	Four, 3 lb, dry chemical fire extinguishers meets USCG requirements for this size vessel. <i>Recommend one or more, 5 or 10 lb. CO2 or FE241 hand held extinguishers be added to ships equipment.</i>
Life Raft	Viking 8 man raft in valise located in cockpit locker. SN 11698444. Last Service 2013. Expired 8/2016
Personal Floatation Devices(PFD's)	Four Type 4 Inflatable PFD's clean, in average condition. Three USCG Type 2 rated. Clean and in average condition..
Throw-able	Horse shoe, no tag line, no strobe (Ref 33 CFR Part 175.15(b))
Personnel Harness(s)	None observed on board.
Horn and/or Whistle	12 VDC horn. Push button at helm. Non Functional..
Bell (12m Up)	None observed on board.
MOB Pole	None observed on board.
Flares	Collection of hand held and parachute flares. All expired.
AIS	None on board
E.P.I.R.B.	ACR Mini RLB 32, SN 11380, Expired 2-10-16. Recertify and Re-register EPIRB with NOAA-SARSAT www.beaconregistration.noaa.gov
Emergency Lighting:	Several hand held flashlights and rechargeable spot light on board.
First Aid Kit	A few first aid items observed in starboard cabin locker.
Emerg Bilge Pumps	Two, whale, manual pumps installed in each companionway bulkhead. Handles integral to pump. Not demonstrated.

Misc.

Docking:	Found assorted braided lines, 4 inflatable fenders and two boat hooks.
Lines / Fenders	Assorted dock lines, fore, aft & springs all braided lines in good condition. 4 Inflatable fenders, some have lost air charge.
Tools & Spare Parts	Considerable assortment of tools and electrical and spare parts in port side, aft cabin.
Tender & O/B (not demonstrated)	Mfg: AB, 10', <i>Rated for 5 adults</i> and a 25 HP outboard. Avg Cond. O/B: Yamaha, 15 HP 4 Stroke, SN 1034837. <i>Recommend outboard motor be surely locked to transom of tender.</i>

M. SEA TRIAL

Vessel found in dry storage and was launched as part of this inspection. During functional testing (sea trial) vessel operated by clients. Engines were operated at approximately 2200 RPM and briefly at WOT with port engine achieving 3000 RPM and Starboard engine only reaching 2,600. Engines were throttled back and the sails raised.

The starboard engine **overheated during operations**, high temperature alarm sounded and the engine was immediately shut down manually.

IR temperature readings on portions of the starboard engine head (after shut down) were 190F while the same locations on the port engine (while operating) were 160F.

N. SUMMARY

In addition to comments throughout the body of the report the following recommendations are offered:

- 1 Repair or replace Bow Nav Light. Make under-deck lights at stern functional.
- 2 Make horn operational from helm. Carry a hand held compressed air horn spare.
- 3 Inspect and replace both engine water pump impellers. Demonstrate both engines will operate continuously at full rated RPM without overheating.
- 4 Repair or replace generator keeping the sound proof enclosure intact and automated safety shut down features including low oil pressure and over temp shut down.
- 5 Inspect and recertify life raft by factory authorized service center.
- 6 Recertify and reregister EPIRB. See page 21.
- 7 Recommend the Main Sail and Sail Pack be laundered to remove mold. Sail pack zippers in need of restitching.
- 8 Fully Inspect boom and re-rig as necessary. Make the outhaul functional.
- 9 Provide a stern lifeline. See Railings and Lifelines, page 6.
10. Insure all below water line hoses and engine hoses ends have two clamps.

In consideration of correcting all issues and recommendations listed in the summary and throughout the report, and review of comparable sales and other information, Fair Market Value for this vessel is *estimated* at **\$ 000,000 USD**.

Replacement value estimated at: \$ 000,000. USD

