

# ANCHOR HOUSE MARINE SURVEYS

### **Full Condition Survey Report**

### **Berthon 8 Tonne Gauntlet**

### `Nausikaa′

Traditional Shipwright Services, Poole, Hampshire, UK

Thursday 9<sup>th</sup> December 2021

Prepared on Behalf of the Purchaser





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#### Summary

'Nausikaa' is a Berthon 8 Tonne Gauntlet built by Berthon Boat Co Ltd. of Lymington in Hampshire, UK to a design by Rodney W. Paul and Harry G. May in 1939. She was found to be in overall very good condition for her age having benefitted from a major refit and restoration in 2014, though some areas of maintenance and servicing are required. The main summary of points is as follows:

- 1. The topsides, deck and superstructure are in overall very good condition structurally with only minor defects in the paint. The internal structure is showing various areas of light to medium weeping noted along the yacht's length as well as some corrosion to the iron floors and knee brackets. This is not considered out of the ordinary for such an old yacht though but does need to be checked and resolved.
- 2. Hull coatings are generally smooth overall though some light breaking of coatings and some caulking expansion is noted in some areas.
- 3. The lead ballast keel is generally serviceable externally but internally, the bilge has around 1.5" of sea water and the bolts are submerged though returning a solid sound.
- 4. The stern gear is in a serviceable condition overall.
- 5. The steering gear is serviceable though the rudder has medium play in the various bearings.
- 6. The mast and rigging were independently inspected by 'XP Rigging'.
- 7. The domestic systems are clean and serviceable overall but the gas locker box contains water despite having a drain and the calorifier fittings have all over patina.
- 8. The bilge pumping system is in a serviceable condition.
- 9. The electrical system is in a serviceable condition though the battery charger was not seen at the time of survey and the 240V system was not tested as no shore power was available.
- 10. The fuel system is in a serviceable condition.
- 11. The engine is in a serviceable condition overall but the drivetrain could not be inspected as the cockpit deck panel is sealed.
- 12. There is no CO or gas alarm fitted.

This is a beautiful and elegant classic yacht and with all servicing and maintenance issues addressed, 'Nausikaa' should continue to give good service for many years.

Within this report, any issues found are graded for your information according to severity as:

"Urgent Recommendation"	Must be done urgently before re-floating and certainly before any use is made of the vessel.
"Recommendation"	Should be done at the earlier of next docking or within twelve months or such other time scale as may be specified.
"Suggestion"	For information and consideration but not particularly significant to safety at this stage.
"Note"	For information only.

#### Circumstances

The survey was carried out on the 9<sup>th</sup> of December 2021. 'Nausikaa' was inspected ashore at the premises of Traditional Shipwright Services in Poole, Hampshire, UK. The mast and rigging had been removed. The weather at time of inspection was partially overcast, dry, 8°C with light westerly winds. The survey was carried out on the instruction of the purchaser to ascertain the condition of the yacht and produce a report prior to purchase.

No fastenings were drawn and no paint was removed above the water line externally. One area of paint was removed below the waterline to check coatings layers and wood condition. The hull was examined externally above and below the water line and internally where accessible, elsewhere internal mouldings prevented examination. The cabin soles, bunk boards, hatches and portable joinery were removed as necessary to gain access to the interior of the vessel. The engine was not stripped, the tanks were not opened unless stated, nor their capacities checked. The batteries and the electrical systems were tested including interior and exterior lights. Equipment and interior fittings were tested as far as practicable and as described below.

**Please note:** This condition report is correct as per the date of survey stated above and as such, it cannot be guaranteed for any time after the survey was undertaken.



#### **Description of the Yacht**

'Nausikaa' is a classic sailing yacht of composite wood and steel frame construction, round bilge with an iron ballast long keel. She has a spoon bow and a canoe stern, carrying her maximum beam aft of amidships.

She was built by The Berthon Boat Co Ltd of Lymington in Hampshire, UK in 1939.

The yacht's principle dimensions as supplied are set out below:

Length Overall	9.91m
Length of Waterline	8.00m
Beam	2.59m
Draft	1.70m (approx.)
Displacement	8.00 tonnes (approx.)
Engine	Nanni N2.14 2-cylinder diesel
Stern Gear	Conventional shaft drive
Fuel Capacity	n/r
Water Capacity	n/r
Boat No.	550



#### Hull and Internal Structure

#### Hull Type:

All wood construction with spoon bow, shallow round bilge and a canoe stern. She has a lead ballast long keel and her maximum beam is carried just aft of midships.

#### Hull Structure:

The construction of the yacht is a composite type consisting of oak bow and stern frames, an elm keelson, oak main frames, deck beams, beam shelfs and stringer sections with painted galvanised iron floors with bronze bolts and hanging knees along with new stainless steel plate knees by the mast area and all other standard wooden yacht scantlings. The structure is clothed with teak planking and the condition of this structure is in a good overall condition with no major issues noted.

#### Port Topside:

This is in white painted, carvel laid teak planking with a gold painted cove line above the varnished teak fender. The topside is generally clean but there are some minor areas of paint bubbling / detachment as well as some light caulking line protrusion in the paintwork along the yacht's length but there are no signs of any major damage or repair. There are no fore and aft sling tags fitted.

#### Starboard Topside:

This is in white painted, carvel laid teak planking with a gold painted cove line above the varnished teak fender. The topside is generally clean but there are some areas of paint bubbling / detachment aft of midships as well as some light caulking line protrusion in the paintwork along the yacht's length but there are no signs of any major damage or repair. There are no fore and aft sling tags fitted.



Fig.1 – some light defects and plank caulking line protrusion in the paintwork.

#### Hull Planking Condition:

The hull planking is in carvel laid teak planks and externally, these are all in a clean condition overall, though there is some light caulking expansion in way of some of the seams and some cracking evident in some areas, but there are no signs of any damage, repair or any clearly open seam gaps. Internally, these are painted in white above the waterline and red bilge painted below. There are various signs of light to medium weeping through the seams below the waterline in areas throughout the yacht but this is to be expected for a yacht of this age and sailing use.

#### **Recommendation**

Repair the topside defects.

#### Recommendation

Clean up all weep runs and shore up / stop the various leaks where possible.

#### Bow Stem :

There are some minor chips and scuffs in the paintwork above the waterline but no signs of any major damage or repair. Below the waterline there is some heavy wear / rubbing, scuffing marks as well as some apparent circular impressions noted with surface wood damage, which may be in way of the connecting bolts. The damp seam / caulking lines can be lightly seen in the antifoul but there are no signs of any obvious internal issues.



Fig.2 – small area of damage to the bow stem below the waterline.

#### Stern Frame:

The stern frame is in a clean condition above the waterline, is serviceable below and internally, no issues were noted. It is coated in red bilge paint or similar with no clear evidence of any leaks.

#### Stern Post:

This is securely fitted and extends from the aft end of the ballast keel to the underside of the stern frame with no clear issues noted.

#### Keel:

The lead ballast keel is in a serviceable condition with no signs of any obvious movement at the keelson to keel joint. The ballast keel to rudder post bronze or copper cover piece is serviceable with no clear signs of any dezincification where inspected though there is some light tear damage on the bottom face. There are various signs of light cracking of the coatings along the join with the hull but there are no signs of any weeping from the join along its length. Internally, the keelson is painted in red bilge paint or similar and all bolts where seen are generally serviceable and returning a good sound when hammer tested. However, the bilge is covered with around 1" of sea water with the forward keel bolts submerged which will need to be removed.

#### Hull Coatings:

The antifoul is in green, is generally smooth in appearance and adhering well to the teak planking though there are various patches of detachment and the lines of the plank seams / caulking can be seen throughout. Some minor scrapings showed that the coatings consist of a red primer and antifoul only and there is no epoxy coating or sheathing applied.

#### Recommendation

Repair the areas of wear along the stem / forefoot.

#### Recommendation

Remove all bilge water, clean out and allow to dry. Repair the torn copper / bronze sheathing.



Fig.3 – sea water in the bilge forward covering the keel bolts and iron floors.

#### Oak Frames:

The oak frames are in a serviceable condition and securely fitted where seen without any clear signs of separation from the teak planking noted, though some of the copper clench nail heads have patina. There is a leak underneath the water pipework noted around the port side frame under the forward bunk space and there are various leaks and deposits around frame and deck fixings.

#### Deck Beams:

The oak deck beams are in a serviceable condition and securely fitted where seen without any clear signs of any separation from the teak superstructure or planking.

#### Beam Shelfs:

The oak beam shelfs are in a serviceable condition and securely fitted where seen without any clear signs of any separation from the hull frame to deck beam joins.

#### Stringers:

The oak stringer sections are painted in white and securely fitted across the hull frames where seen.

#### Iron Floors:

These are securely fitted to the hull frames and elm keelson via bronze bolts and coated in red bilge paint but in the bilge where the sea water is, there is surface corrosion noted particularly to the submerged sections. In the cockpit and aft, these are showing a fair bit of corrosion and weeping though access is difficult to properly inspect.

#### Iron Beam Knees:

These are securely fitted to the deck beams and hull frames via bronze bolts and painted white but the aft knees particularly in the cockpit and lazarette section are showing some signs of corrosion and weeping.

#### Inner Tray:

There are removable oak sole boards fitted along the interior's length with ring pull handles and these are fitted over red painted timber floor sections. These are in a serviceable condition but some are tight to remove due to damp expansion from water in the bilge. The forward cabin bunk side lengthwise panels are very difficult to remove and the forward panel cannot be removed because of the side panels. This should be rectified.

#### Recommendation

Resolve all areas of weeping.

#### Recommendation

Clean off all corrosion from the floors and knees where seen and repaint.

#### Bulkheads:

The bulkheads are in marine ply and lined with tongue and groove mahogany securely fitted to the hull and where visible, there are no obvious signs of any movement.



Fig.4 – signs of corrosion and weeping from the lazarette iron floors.



Fig.5 – example of weeping from the structure / planking.

## Cathodic Protection *Anodes:*

There is a cone anode securely fitted to the end of the propeller.

**Suggestion** Replace the anode.

#### Bonding:

The anode is electrically bonded to the stern gear with excellent continuity and resistance to all items is below  $2\Omega$  which is good.

Wasting:

The anode is wasted by approximately 15 - 20%.

#### Hull Openings, Fittings and Seacocks

#### Sea Water Coolant Inlets:

The engine coolant inlet is located forward of aft on the starboard side above the keel and is a secure, small bore bronze fitting in good condition.

#### Toilet Inlet / Outlet:

- The toilet inlet is located forward of midships on the port side and is a secure, small bore bronze fitting which is in good condition.
- The toilet outlet is located forward of the inlet and is a secure, medium bore bronze fitting which is in good condition.

#### Grey Water Outlet:

This is located at midships on the starboard topside above the waterline and is painted bronze fitting.

#### Bilge Outlets:

The electric and manual bilge pump outlets are located aft on the port topside and are white painted, small and medium bore bronze fittings respectively.

#### Exhaust:

The engine exhausts via a white painted bronze fitting located extreme aft on the starboard side and internally this is serviceable though some patina is present.

#### Scuppers:

The decks drain overboard via gaps in the toe rail.

#### Cockpit Drains:

The cockpit drains overboard via fully double clipped, clear reinforced hose to a 'Blakes' seacock which could not be reached to be tested but is in a serviceable condition overall.

#### Tank Vents:

All tanks vent to atmosphere but the outlets could not be seen at the time of survey.

#### Transducers:

- There is an 'Airmar' thru-hull speed and temperature unit securely located forward of midships on the starboard side and this spins freely. Internally, the unit has patina to the brass body section but no clear leaks were noted.
- Fitted aft and outboard of this is a canoe shaped depth reader and this is securely fitted. Internally, this is in a serviceable condition with no clear signs of any leaks.

#### Additional:

Located starboard aft just above the waterline is a white painted, small bore bronze fitting for the gas locker drain but the paint has cracked and there is edge corrosion present.

#### Stern Gear

#### Propeller:

There is a three bladed, right hand turning propeller of all bronze construction fitted which is in good condition with no signs of any dezincification or blade tip and edge damage.

Size	14 x 09 R
Serial No.	MP355

#### Shaft:

The propeller shaft is in approximately 1'' 'temet' (with iron content) stainless steel which is clean and rotates smoothly.

#### Securing Arrangement:

The propeller is securely fitted to the shaft via a bronze locking nut with a bent over tab washer.

#### Cutlass Bearing:

There is light vertical and lateral play in the cutlass bearing.

#### Stern Tube:

The stern tube runs through the stern post and the external bronze body housing the cutlass bearing is securely fitted though the starboard side lubrication inlets are partially blocked.

#### Stern Gland:

There is a water lubricated compression, packing type stern gland but the body has all over patina present, but this could only be visually inspected due to the sealed cockpit deck panel preventing access. This should be checked after launch for any leaks.

#### Coupling:

The rigid coupling is in a serviceable condition but showing all over surface corrosion to some of the main components.

#### **Steering Gear**

#### Mechanism:

The rudder is turned directly by a tiller arm located aft of the cockpit and this operated satisfactorily with no signs of any binding.



**Fig.6** – rudder dudgeon inner sleeve has detached and is corroding.

#### Rudder:

The rudder is constructed of shaped teak sections and is in a serviceable condition with no clear signs of any plank separation, seam gaps or weeping.

#### Stock:

The stock is in bronze and then splits to fit along each side of the rudder where they are joined by connecting through fixings. This is securely fitted with no clear signs of any dezincification or movement, but the stock as it passes through the stern post has some play noted, though not as much as are in the rudder bearings. The stock is then fitted via a varnished deck plinth to a bronze securing mount / bearing where this is fitted to a varnished timber tiller with no play detected.

#### Bearings:

There is medium to heavy play in the bronze base bearing and centre gudgeon hinge. The gudgeon hinge is securely fitted but the inner lining has detached and is corroding and the `wooden stock' section appears quite worn, though visibility was limited.

#### Recommendation

Remove the play in the various bearings and service the gudgeon inner lining.

#### **Recommendation** Monitor the bearing and replace once it worsens.

Recommendation Open up all cooling water entry holes. Recommendation Remove the cockpit deck panel and inspect and service the gland and coupling. Suggestion Make the cockpit deck panel

removable.

#### Rudder Trunk:

The stock runs inside a bronze tube which is secured to the stern frame and deck underside.

#### **Deck and Superstructure**

#### Deck:

The yellow pine deck planking is fibreglass sheathed and coated in non-slip paint and is in a clean and serviceable condition. The outer margin boards are varnished but there are some areas of black staining due to water damage, particularly around the stanchions and deck gear.

#### Superstructure:

The coach roof, cockpit and hatch coamings are in varnished teak and securely fitted with no clear signs of any damage or repair.

#### Hatches, Windows and Port Lights

#### Main Hatch:

The main hatch consists of 3 x varnished teak washboards, of which the centre one is vented, which locate in the superstructure hatch framing. These lock to a varnished teak sliding hatch which operated satisfactorily.

#### Fore Hatch:

Fitted over the forward cabin is a forward hinged, varnished teak lid which seals over a varnished teak coaming. This has 2 x spring loaded, securing handles fitted and a sliding brass stay.

#### Additional Hatch:

Fitted aft of the cockpit is an aft hinged, varnished teak lid with brass mushroom vent which seals over a varnished teak coaming which leads to the stern space.

Portlights:

- There are 6 x opening brass portlights which are securely fitted through the coach roof sides. These are in a serviceable condition but with areas of patina though no evidence of any clear leaks were noted.
- There are various deck and coach roof prisms securely fitted and there are no clear signs of any leaks.



Fig.7 – starboard side gate aft stanchion is loose at the deck join.

Stanchions and Hand Rails         Pulpit and Pushpit:         There are stainless steel tube installations securely fitted.         Stanchions and Guardwires:         • There are 6 x stainless steel tube stanchions incorporating side gates securely pinned to galvanised steel deck mounts which in turn are screwed to varnished teak blocks fitted to the margin boards. The starboard aft gate mounting block is loose         and both eide gate forward standbing surged attraction and tighten the side gate standbing block is loose
<ul> <li>There are stainless steel tube installations securely fitted.</li> <li>Stanchions and Guardwires:         <ul> <li>There are 6 x stainless steel tube stanchions incorporating side gates securely pinned to galvanised steel deck mounts which in turn are screwed to varnished teak blocks fitted to the margin boards. The starboard aft gate mounting block is loose</li> </ul> </li> </ul>
• There are 6 x stainless steel tube stanchions incorporating side gates securely pinned to galvanised steel deck mounts which in turn are screwed to varnished teak blocks fitted to the margin boards. The starboard aft gate mounting block is loose tighten the side
<ul> <li>and both side gate forward stanchion support arms are loose where they join the margin board.</li> <li>There are upper and lower cord guardwires fitted to the pushpit and pulpit by cord.</li> </ul>
<i>Hand Rails:</i> There are 2 x securely fitted, varnished handrails on the coach roof.
Ground Tackle and Mooring Arrangements
<i>Anchor:</i> Located on the foredeck is a 15kg approx. hinged CQR anchor which is in a serviceable condition. The anchor to chain shackle is in stainless steel and the securing pin is wired.
<i>Chain:</i> The main anchor cable is a length of 9mm galvanised steel chain but the chain bitter end is could not be seen attached to a length of cord attached to a locker base strong point.
The 'Afco' manual windlass with warping drum and cable gypsy is securely fitted but the cord, itself fitted to braking strap has corrosion to the securing points.
Stem Head: There is a bronze, single channel, integral stem head and chainplate securely fitted over the bow stem with single nylon roller and securing bar. the chain locker. Remove the corrosion from the
<ul> <li><i>Cleats:</i></li> <li>There are 4 x mooring bronze and teak cleats securely fitted in total with associated bronze fairleads.</li> <li>There are various small bronze cleats securely fitted ay midships and around the cockpit.</li> </ul>
Mast, Spars, Rigging and Deck Gear This aspect of the yacht was independently inspected by 'XP Rigging'.
<b>Ventilation</b> <i>Accommodation:</i> The main hatch, all deck hatches and portlights serve the stern aft space, accommodation and heads.
<i>Machinery:</i> The engine compartment is naturally vented.
<i>Tanks:</i> These are vented to atmosphere though the fittings could not be seen at the time of survey.
<i>Stowages:</i> These are naturally vented and it is recommended to never overfill any storage locker to avoid a potential build-up of moisture and also to allow natural ventilation.
Interior Joinery and Furnishings
<i>Joinery:</i> The varnished mahogany cabinetry throughout the accommodation is in good condition with only minor signs of normal wear and tear.
<i>Deck:</i> The decking consists of removable oak sole boards with ring pulls, though some of these are lightly damp swollen and are tight to remove.

#### Linings:

There are white painted bulkhead panels cleanly fitted throughout and the deckhead is also painted in white.

#### Soft Furnishings:

There are blue and white patterned cotton seat cushions, seat backs and bunk mattresses fitted in the accommodation and all are in a clean condition though the forward cabin mattresses are damp all over.

#### **Gas and Domestic Installation**

#### Locker / Bottle:

This is located in the lazarette space ender the stern deck hatch and is a securely fitted wooden tub with removable lid. This contains a 'Calor' 4.5kg butane bottle which is in an average condition but the base is showing corrosion due to the presence of water in the base which is not draining away. The drain hose from the tub is fitted to the bronze discharge fitting in the topside via double clipped, blue reinforced hose.

#### Regulator / Hose:

- The 'Hayward' regulator is securely fitted and in a serviceable condition.
- The external gas orange flexible is BS 3212 compliant, securely clipped at both ends but showing deposits and with a manufactured date of 10/2017.

#### Gas Pipe / Cut Off Valve:

- The pipe is in drawn copper, covered with clear reinforced hose and where visible is in a serviceable condition.
- There is a cut off valve located above the cooker and this operated satisfactorily.

#### Cooker:

There is a 'Levante 2' stainless steel cooker with two burner hob, oven and grill fitted in the galley on the port side. This is securely fitted, serviceable with a gimbal mechanism and lock but was not tested. The cooker flexible hose is a braided stainless steel type, it appears to be securely fitted but no manufactured date was visible.

#### Refrigerator:

Located adjacent to the chart table is a portable 12V fridge box which powered up satisfactorily via the 'spare' switch on the 12V switch panel.

#### Calorifier:

There is an unbranded calorifier securely fitted in the cockpit port locker and is heated by the engine cooling circuit and a 240V element. The inlet and outlet bronze connections are damp, have all over patina and the expansion valve outlet has no hose directing water to the bilge. The 240V element could not be tested as there was no shore power available.

#### Heater:

There is no heater fitted.

#### **Fresh Water Installation**

#### Deck Filler:

There is a bronze screw deck filler located in the port side deck forward. The seal is average but the securing chain is fitted.

#### Tank:

The fresh water tank is securely fitted under the forward cabin bunk. This is in welded stainless steel but the inlet and vent hoses cannot be seen as the forward base board cannot be removed without removing the lengthwise side panels, which are very difficult to remove. The outlet is securely fitted and there are no clear signs of any leaks.

#### Pump:

There is a 'Jabsco' 12V water pump with inlet strainer securely fitted aft of the tank. This operated satisfactorily but wasn't run for long as there is no water in the tank to pressurise the line.

#### **Suggestion** Remove the sheathing as this can harbour moisture and could cause corrosion.

Recommendation

Redesign the gas

bottle box so that

the water can drain

out and not collect.

Clean up or replace

the bottle.

#### Recommendation

Clean up all connections and add a drain pipe to the expansion valve outlet.

#### Recommendation

Replace the seal. Suggestion Water tanks should be cleaned annually with super chlorination and flushing prior to use each season is recommended. Suggestion Alter the side panels to ensure the forward panel can be removed or redesign the forward panel.

#### Pipework:

This is in white PVC screw-fit hose and no clear leaks were noted though testing was not possible as the tank was all but empty. Some of the screw cap ends around the water pump are loose. The tap flexible inlet hoses are clean with no clear signs of any leaks.

#### Taps:

- The galley sink tap is a securely fitted stainless steel, hot and cold mixer unit but this very lightly loose.
- The heads sink tap is a securely fitted polished stainless steel hot and cold mixer • with shower type handle. This operated satisfactorily but only for a short while as there was no water in the tank.

#### Sewage and Bilge Installation

Grey Water Systems, Seacocks and Pipework:

- The galley sink is a stainless steel type draining via a white concertina hose fitted to a black reinforced hose discharging to the discharge sump box.
- The heads sink is in stainless steel, securely fitted and drains via single clipped, white reinforced hose to the discharge sump box.
- There is a moulded shower tray under the heads removable sole board which is very tight to remove. This drains aft via single clipped, white reinforced hose to the discharge sump box.
- All sinks and the shower drain to an 'Amarine Made' 750gph automatic discharge sump securely fitted in the saloon bilge aft and this is discharged overboard via white sanitary grade hose which is single clipped at both ends to a brass bodied, ball valve seacock which operated satisfactorily and is in a generally clean condition. No 'CR' markings were noted. The sump could not be tested as there was no water in the tank.

#### Toilet:

There is a 'Jabsco' china bowl, manual sea water flush toilet with loose seat and lid securely fitted in the heads but could not be tested as the yacht is ashore.

#### Toilet Seacocks and Pipework:

- The inlet seacock is a brass bodied, ball valve type which openly partially opened and has some light patina to the fittings. No 'CR' (corrosion resistant) marks were noted. The hose is in white reinforced hose, double clipped to the seacock and single clipped to the pump and then the toilet via a loop with a syphon valve fitted.
- The toilet outlet is in white reinforced hose, looped up with a syphon valve fitted hose, single clipped to the outlet and double clipped to a brass bodied, ball valve seacock which operated satisfactorily, though tight to turn and is in a generally clean condition. No 'CR' marks were noted. However, there is small leak noted from the toilet outlet.

#### Electric Bilge Pump:

There is a 'Rule' 2000gph automatic bilde pump with 'Rule' float valve fitted in the aft bilde. This operated satisfactorily from the separate 'man-off-auto' switch at the chart table and also via the float switch. The pipework is in single clipped white reinforced hose and double clipped to a brass bodied, ball valve seacock which operated satisfactorily but the handle is a little loose and is showing patina to the body. No 'CR' marks were noted though access and visibility was limited.

#### Manual Bilge Pump:

There is an unmarked manual bilge pump securely fitted aft in the cockpit port locker with the pick-up securely fixed in the saloon bilge aft. The pipework is in single clipped white reinforced hose and double clipped to a brass bodied, ball valve seacock which is seized open and is showing patina to the body and surface corrosion to the handle. No 'CR' marks were noted though access and visibility was limited. This dry pumped satisfactorily.

#### Recommendation

Recommendation

Recommendation

Tighten the galley

Tighten all loose

connections.

sink tap.

Fix the leak from the toilet outlet. Recommendation Ensure all yacht seacocks are free to turn and clear of patina / corrosion. Note

All seacocks must be 'CR' or 'CW602N' marked types, full bronze types or 'Marelon' plastic types. Do **not** use 'CW617N' marked brass types.

#### **Electrical Installation**

#### Batteries:

There are 2 x 'Lucas' 12V 86Ah domestic system batteries securely fitted in wooden tubs with lids, one per side, in each cockpit locker forward. The terminals are clean, the cabling is tight, the batteries are parallel connected and showing charged.

#### Isolator:

There is a rotary 'on-off-parallel' main isolator securely fitted adjacent to the consumer unit and this operated satisfactorily.

#### Charger:

The charger was not seen at the time of survey.

#### Shore Power:

There is a 240V shore power inlet located forward in the cockpit starboard locker. This is wired to a consumer / RCCB breaker unit securely fitted forward in the cockpit starboard but this could not be tested as there was no shore power available.

#### Switch Panel:

The 12V DC switch panel with battery monitor is located at the chart table and this is well laid out and operated satisfactorily.

#### Wiring:

Where visible, the main cabling and wiring installations have been installed according to good engineering practice, are securely clipped and is in a serviceable condition where seen. The 240V sockets could not be tested for correct polarity as the shore supply was not available.

#### Lights:

There are various switched lights throughout the accommodation and all operated satisfactorily.

#### Navigation Lights:

There stern light and the bow navigation lights work but until the mast and rig is reinstated, the mast based lights could not be tested.

#### Galvanic Isolator:

There is no galvanic isolator seen and this is advised as an upgrade if the yacht is to be using shore power at marinas on a regular basis.

#### **Fuel Installation**

#### Deck Filler:

There is a bronze screw deck filler located in the starboard side decks aft. This has no seal or securing chain fitted.

#### Tank:

There is a stainless steel cylindrical tank securely fitted in the cockpit starboard locker. The inlet and vent hoses (if fitted) could not be seen as access and visibility was limited. The fuel outlet is securely fitted to the drain pot which also includes a base drain valve.

#### Fuel Shut Off Valve:

There is a small cut off valve fitted the tank outlet line but this is seized open.

#### Distribution:

This is basic but is installed in accordance with good engineering practice where seen.

#### Pipework:

The pipework to and from the pre-filter is in double clipped ISO 7840 compliant flexible hose and is in a serviceable condition.

#### Pre-filter / Filter:

- There is an unmarked fuel / water separator with drain tap securely fitted aft in the cockpit starboard locker. The top cover and both inlet and outlet pipes have corrosion but no leaks were noted from this installation.
- There is a 'Nanni' engine mounted filter and this is secure with no leaks noted.

#### Urgent

#### **Recommendation** Ensure all navigation lights operate once the mast and rig is reinstated.

#### Recommendation

Add a seal and a securing chain.

#### Recommendation

Ensure any inlet and vent hoses are ISO 7840 compliant. **Recommendation** Free up the cut off valve.

#### Recommendation

**Recommendation** Clean of all corrosion and preserve.

#### Machinery

#### Engine:

The engine is in good cosmetic condition overall and is in a condition proportionate to being serviced and maintained regularly. However, the oil extraction flexible hose has surface corrosion. The engine identification plate could not be read. The engine details are:

Make	Nanni N2.14 2-cylinder diesel
Max Rating	14hp @ 3,600 rpm
Serial No.	n/r
<b>Engine Hours</b>	n/r



Fig.8 – Nanni N2.14 2-cyclinder diesel engine.

#### Gearbox:

The gearbox is in a serviceable condition where seen, though access and visibility was very limited due to the cockpit sealed deck panel preventing access. The main identification plate was very difficult to see, but where seen the details are:

Make / Model	Twin Disc
Ratio	2.6:1
Serial No:	n/r

#### Bearers and Mounts:

The engine is firmly secured to lengthwise timber beams via four engine mounts fitted to nylon blocks and steel channel section. These are in overall serviceable condition though there is surface corrosion noted on the port aft mount and to the steel bearer sections. There is no clear movement of the engine when rocked by hand.

#### Seacock and Strainer:

- The main coolant seacock is located to starboard in the saloon bilge aft. This is a brass bodied, ball valve type which operated satisfactorily but showing some areas of patina and surface corrosion to the handle. The pipework is in white, reinforced hose securely double clipped to the seacock and single clipped to the strainer but no markings were seen to state it is fire resistant.
- The hoses are single clipped to a plastic strainer with clear top securely fitted forward in the engine compartment. The outlet is single clipped to the water pump inlet.

#### Recommendation

It is advised to make the cockpit deck panel a removable type but one that it is still watertight.

**Recommendation** Clean off all corrosion and preserve with `Tectyl' or similar.

<i>Cooling / Heat Exchanger:</i> The engine is cooled indirectly by seawater supplied by an engine driven impeller type pump which is showing deposits and corrosion around the brass cover plate though there is no clear evidence of any leaks. The heat exchanger is in a serviceable condition with no clear signs of any leaks or salt deposits around the end caps.	<b>Recommendation</b> Service the water pump or check the pump when the		
<i>Hoses:</i> These are in a serviceable condition where seen with no clear signs of cracking or leaks evident.	engine is running for any leaks.		
<i>Fluid Tight:</i> There are no signs of any major leaks from the installation.			
<i>Exhaust:</i> The exhaust gases from the engine travel through the manifold and downpipe connected to a securely single clipped, exhaust grade hose leading to a marine exhaust which is securely fitted. The outlet then connects to an upward looped securely single clipped, exhaust grade hose and this then runs along the underside of the stern deck before being connected to the exhaust skin fitting.			
<i>Controls:</i> These are serviceable.			
<i>Ancillaries:</i> The engine is fitted with a 12V alternator which supplies charge to the yacht's batteries when the engine is running.			
<b>Fire Fighting Equipment</b> Accommodation: There are various 1kg, ABC, dry powder extinguishers securely fitted in the accommodation. These are showing charged and date 2018.			
<i>Galley:</i> There is a loose fire blanket located at the chart table.			
<i>Engine Compartment:</i> There is no fire extinguisher fitted in the engine compartment and this is highly advised.	Recommendation Install an automatic		
<i>Smoke / CO / Gas Alarms:</i> There are no detection alarms fitted.	'clean agent' type extinguisher in the engine		
Lifesaving Appliances Life Jackets: None seen at the time of survey.	compartment and install a CO alarm at the galley. Urgent		
<i>Life Raft:</i> None seen at the time of survey.	<b>Recommendation</b> Ensure there are		
<i>Flares:</i> None seen at the time of survey.	sufficient life jackets on board for all. An in-date		
<i>Life Buoys:</i> There are 2 x horse shoe units and 2 x floating lights on board.	selection of flares suitable for the expected cruising		
<b>Ancillary Equipment</b> <i>GPS / Chartplotter:</i> There is a 'Raymarine' C series chartplotter securely fitted at the chart table and this operated satisfactorily.	range should be carried. A useful guide is RYA publication C8.		
<i>VHF:</i> There is an 'Icom' ICM323 VHF unit located at the chart table. This powered up satisfactorily but there was no signal available.			
<i>Clock and Barometer:</i> There is a 'Sestrel' clock and barometer fitted forward above the chart table.			

#### Statement

This report is a true and accurate description of 'Nausikaa' as far as could be ascertained at the time of the survey, but no guarantee is given or implied. We have not inspected equipment, woodwork or other parts of the structure which are not included within this report or were covered, unexposed or inaccessible and we are therefore unable to report that any such part is free from defect.

The purchaser should satisfy themselves that all systems which could not be tested or inspected at the time of survey are operable.

The yacht has not been examined for compliance with any code, rule or craft directives and no opinion as to such compliance is expressed or implied.

This report is provided for the sole use of the instructing client named within this survey report and no liability of any nature will be accepted by the surveyor to any third party.

This report is submitted without prejudice.

R.J. Kenz

Rupert Keyzar AssocIIMS

Anchor House Marine Surveys 14<sup>th</sup> December 2021

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