

'Yacht Name'



ANCHOR HOUSE MARINE SURVEYS

Structural Survey Report

Moody 38 CC

(Yacht Name)

Birdham Pool Marina, Chichester, UK

Thursday 6th December 2018

Prepared on Behalf of the Purchaser



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Summary

‘██████’ is a Moody 38 CC built in 2003 by Marine Projects Ltd / Princess Yachts International in Plymouth, UK to a design by Bill Dixon. She was found to be in overall good condition for her age, showing evidence of having had regular and ongoing use but requires various servicing and maintenance issues addressed. She appears not to have been altered from her original design. The main summary of points is as follows:

1. The topsides, deck and superstructure are in overall good condition structurally bar some minor stress cracks in the deck. The paintwork is heavily sun damaged and faded in numerous areas and the superstructure has areas of light crazing and gelwash stains due to repeated rub downs of the surface gelcoat. The internal structure where seen is clean with no evidence of any movement.
2. The coppercoat epoxy / antifoul is adhering well but is beginning to fade in areas given it is eleven years old. There is a band of gelcoat blisters at the waterline from aft of midships on both sides. The blisters are gelcoat deep and likely to be due to poor initial layup / contaminants. There are also a few light blisters, outboard at the forward end of the keel on both sides. The outer bottom laminates were tested for moisture content and are mainly in the lower to medium scale though the hull was still damp in some areas and these figures are likely to be less with a longer time ashore to dry out. Certain skin fittings are showing dezincification.
3. The keel installation is sound and secure with good joint sealant and no evidence of any cracking / movement. Internally, the bolts all have heavy surface corrosion present and there is salt water present in the bilge.
4. The propeller and P bracket has heavy dezincification present and both hull and propeller cone sacrificial anodes are very depleted, with the hull anode too far away from the stern gear. The cutlass bearing has a small amount of play present.
5. The steering gear is in a serviceable condition though the rudder gland is leaking with salt water in the bilge. The steering cables are lightly slack and their securing shackles are corroding.
6. The mast and rigging is in good order overall.
7. All seacocks are in varying states of corrosion with many being tight to turn and this is due to the presence of salt water in the various bilges. The bilge water under the engine is due to either the stern tube leaking or the stern gland leaking, or both as there is water present underneath

This is a good overall example of a Moody 38 CC especially given the amount of blue water sailing it has done, but this has also given rise to the various issues outlined above and as a result she does require various servicing and maintenance issues addressed. With these issues resolved, ‘██████’ will 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.

‘Yacht Name’

Circumstances

The survey was carried out on the 6th December 2018. [REDACTED] was inspected afloat and in the hoist at Birdham Pool Marina, Chichester. The mast and rigging were standing. The weather at time of inspection was overcast, sometimes wet, at 12°C with medium easterly winds. The survey was carried out on the instruction of [REDACTED] to ascertain the structural 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. As the hull is painted with coppercoat, no paint was removed below the waterline. 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.

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.



‘Yacht Name’

Description of the Yacht

‘[REDACTED]’ is an all glass fibre construction, round bilge, fin keel, sailing yacht. She has a raked entry and a reverse counter stern, carrying her maximum beam aft of amidships.

She was built by Marine Projects Ltd / Princess Yachts International, Plymouth, UK in 2003.

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

Length overall	11.43m
Length of waterline	9.60m
Beam	3.86m
Draft	1.75m (approx.)
Displacement	8.20 tonnes (approx.)
Engine	Yanmar 4JH3E 4-cylinder diesel engine
Fuel capacity	227 litres (approx.)
Water capacity	363 litres (approx.)
Stern gear	Conventional shaft



Hull

Hull:

All GRP construction with raked entry and round bilge with a shallow bilge running aft to a reverse counter stern. She has a fin keel and her maximum beam is carried just aft of midships. The hull is in good condition overall.

Port Topside:

This is in navy blue painted GRP with a gold painted 'cove line' and twin white waterline stripes. The topside paint is very sun faded / damaged in various areas along its length with areas of touch up paint from burst blisters at various points along the waterline. There are various rub marks, small scratches and scuffs in areas along the topside, especially aft and aft of midships. There is a toe rail / deck edge all round fender consisting of lightly weathered teak and this is. There are no fore and aft sling tags to aid in lifting.

Starboard Topside:

This is in navy blue painted GRP with a gold painted 'cove line' and twin white waterline stripes. The topside paint is very sun faded / damaged in various areas along its length with areas of touch up paint from burst blisters at various points along the waterline. There are various rub marks, small scratches and scuffs in areas along the topside. There is a toe rail / deck edge all round fender consisting of lightly weathered teak and this is. There are no fore and aft sling tags to aid in lifting.

Transom:

This is in navy blue painted GRP and is very sun faded / damaged in areas with apparent touch up patches on the outboard upper edges. There are also various small rub marks and scratches and touched up gelcoat chips on the edges.



Fig.1 – sun damage to painted topsides.

Coatings:

The antifoul is in coppercoat and adhering well to the substrate but it is now eleven years old and beginning to fade in areas. Being coppercoat and smooth, no areas of paint were scraped off. However, consideration should be given to removing this back to bare GRP (various options such as particle abrasion) at the next service ashore and reapplying. This should be done in association with the repairing of the areas of blisters present.

Recommendation

Repaint the vessel topsides and transom.

Recommendation

Add sling tags to under the toe rail to aid in lifting.

Recommendation

Replace the antifoul at the same time as repairing the hull blisters.

Gel Condition:

The gel was inspected and the following issues were noted:

- There is a line of gelcoat blistering at the waterline and running around the stern starting from aft of midships on both sides. Closer inspection of existing and burst blisters determined that these are gelcoat deep and not further into the matting as best as can be established. Gelcoat deep only blisters suggest that this is due to imperfections / contaminants in the initial layup. In addition, given this is a consistent narrow band and not a loose collection then this gives weight to an issue created during the hull's initial layup.
- There are a handful of light blisters approximately 1cm in diameter on both sides, outboard of the forward end of the keel.

It is advised to plane off the gelcoat in way of the waterline blistering back to the matting and reinspect for any deeper cases of blistering before laying a fresh coat of gel. Regards the blisters by the keel, the gelcoat can either be removed as per the waterline or simply monitored for any worsening over time. This should all be done in concert with the removal and reapplying of the coppercoat.

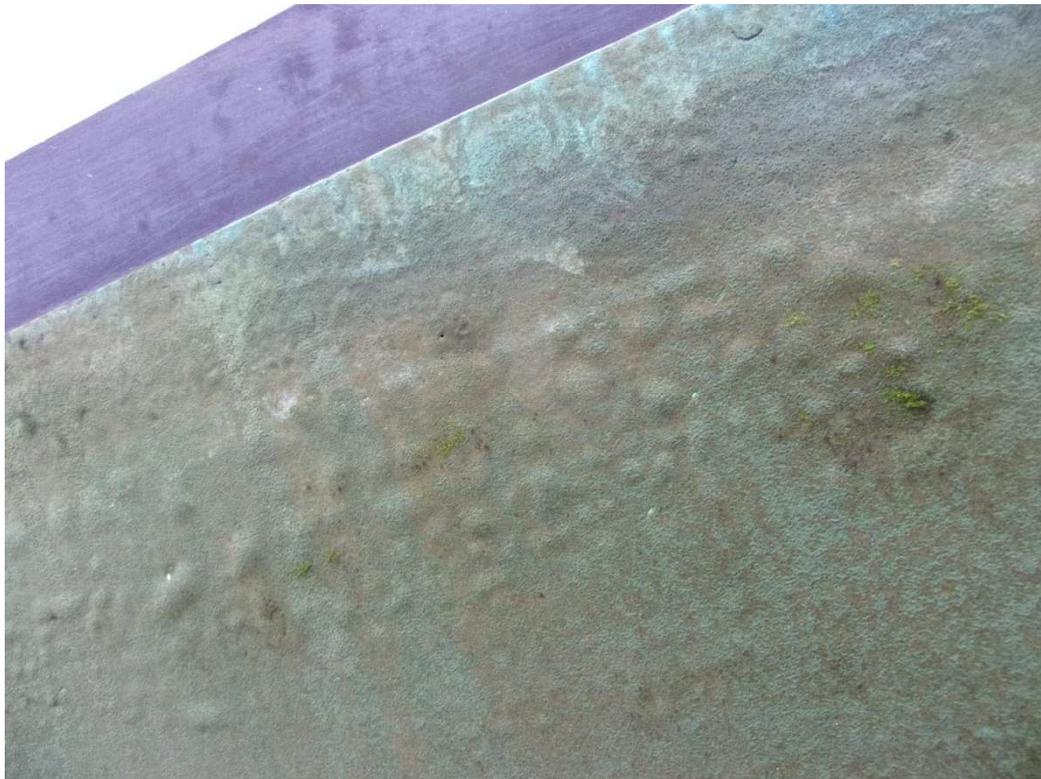


Fig.2 – line of gelcoat deep blistering around the stern from midships.

Hull Below Waterline:

Moisture readings were taken with a 'Protimeter' Aquant 2 meter at more than 100 positions over the outer bottom area and these mainly produced readings ranging from 70 to 170 which is mainly in the low scale but with some medium readings too. The hull was still damp in areas, especially along the keel and the starboard side and it is highly likely that after a sustained period ashore, the hull readings would be lower. Once the hull has been cleaned after the removal of the coppercoat, it should be retested for true moisture readings. The scale used is 0 – 160 (dry) / 161 – 200 (medium) / 201 – 999 (wet).

Keel and Bolts:

There is an iron fin keel securely bolted to the hull and is clean overall bar some minor corrosion breaking through the forward upper end and base coatings. The join to the hull is rough in areas and has been painted over in a different colour but showing no cracks that would indicate movement. Internally all the keel bolts are showing heavy surface corrosion and this is due to the presence of salt water in the bilges. The bilge water must be removed and all bolts cleaned off, inspected and protected with 'Tectyl' or similar. All bolts should be monitored and ultimately replaced once corrosion becomes excessive.

Recommendation

Repair the hull blisters aft and consider repairing those outboard of the keel or monitor for any worsening.

Recommendation

Remove all bilge water throughout the yacht and ensure the bilges stay dry as best as possible.

Recommendation

Clean the keel bolts and preserve all with 'Tectyl' or similar. Monitor future corrosion and replace if deterioration continues.

Cathodic Protection

Anodes:

There are the following units fitted:

- 1 x bar anode fitted forward and outboard of the starboard earthing block.
- 1 x propeller cone anode.
- 1 x bow thruster anode.

Bonding:

The bonding is good but the bar anode is placed too far away from the stern gear thus weakening its ability. This means the cone anode takes up most of the protection process. If the bar anode cannot be moved to nearer the stern gear (i.e. outboard of the shaft), then a spherical anode should be added to the shaft but with tie wraps secured at each end to stop the anode sliding down the shaft and blocking the flow of water to the cutlass bearing when it starts to waste.

Wastage:

Both the bar anode and the cone anode require replacing.

Hull Openings, Fittings and Seacocks

Sea Water Coolant Inlet:

The engine coolant inlet is located aft of midships, outboard of the keel on the starboard side. The skin fitting could not be inspected due to being covered over by the lifting belt. Internally, this is fitted to a brass body seacock which operated satisfactorily but showing all over surface corrosion with red oxide painted onto the handle base. Although not seen on this seacock, adjacent ones for the water maker outlet(s) are stamped with the 'CR' marking indicating it is 'corrosion resistant'. The seacock should be cleaned off, inspected further and preserved if in good condition or it should be replaced at the next major service ashore.



Fig.3 – engine coolant seacock showing all over surface corrosion.

Toilet Inlet / Outlets:

- The toilet inlet is located aft of midships by the keel on the port side and is a secure aft facing bronze scoop and showing signs of light dezincification. Internally, this is fitted to a brass body seacock which operated satisfactorily but tight to turn and showing all over surface corrosion. The seacock should be cleaned off, inspected further for 'CR' markings and preserved if in good condition or it should be replaced at the next major service ashore.

Urgent Recommendation

Replace all anodes aft and it's recommended to add a shaft anode.

Urgent Recommendation

Free up and clean all seacocks with surface corrosion. All seacocks should either have 'CR' markings or 'CW602N' to ensure they are corrosion resistant.

- The toilet direct outlet is located aft of midships by the keel on the starboard side and is a secure 39mm bronze fitting showing signs of light dezincification. Internally, this is fitted to a brass body seacock which operated satisfactorily but tight to turn and showing all over surface corrosion. The seacock should be cleaned off, inspected further for 'CR' markings and preserved if in good condition or it should be replaced at the next major service ashore.
- The holding tank outlet is located aft of midships by the keel on the starboard side and is a secure 33mm bronze fitting showing signs of light dezincification. Internally, this is fitted to a brass body seacock with 'CR' markings which operated satisfactorily but tight to turn and showing all over surface corrosion. The seacock should be cleaned off, inspected further and preserved if in good condition or it should be replaced at the next major service ashore.

Grey Water Outlets:

- The heads sink outlet is located aft of midships on the port side below the waterline and is a secure 24mm bronze fitting and showing signs of light dezincification. Internally, this is fitted to a brass body seacock with 'CR' markings which operated satisfactorily but showing signs of surface corrosion.
- The shower outlet is located aft of midships on the port side below the waterline and is a secure 18mm bronze fitting and showing signs of light dezincification. Internally, this is fitted to a brass body seacock, though no 'CR' markings were noted and which operated satisfactorily but showing signs of surface corrosion.
- The galley outlets are located at midships on the starboard side below the waterline and are secure 24mm and 18mm bronze fittings and showing signs of light dezincification. Internally, these are fitted to brass body seacocks which operated satisfactorily but showing signs of surface corrosion.

Water Maker Inlet:

The inlet is located forward of midships by the keel on the port side and is a secure forward facing bronze scoop and showing signs of light dezincification. Internally, this is fitted to a brass body seacock which is showing signs of heavy deposits and corrosion. This was not tested and should be replaced.

Urgent Recommendation
Replace the seacock or remove and blank off.



Fig.4 – water maker inlet seacock showing deposits and corrosion.

Bilge Outlets:

There are secure, plastic discharge fittings on the topsides serving the electric and manual bilge pumps.

Exhausts:

- The engine exhaust is a flush hole in the GRP located aft on the port side just above the waterline.
- Located on the upper port side of the transom is a secure, chromed heater exhaust.

Cockpit Drains:

The cockpit drains through secure, plastic topside fittings aft via deck openings aft and outboard.

Scuppers:

The deck drains through secure, plastic topside fittings aft via deck drains aft on both side decks.

Tank Vents:

All tanks vent via secure fittings.

Transducers:

There are two thru-hull transducers securely fitted forward and outboard, port and starboard of the keel. These are for the depth and speed displays, though the log has been removed and a blank inserted. Internally these are sound but there is a little water around the fittings suggesting either a small leak or as a result of removing the speed unit and not cleaned up after.

Stern Gear

Propeller / P Bracket:

The propeller is a 'Bruntons' Autoprop of bronze construction with three blades, and in very poor condition due to heavy dezincification and this will need to be replaced along with the 'P' bracket which is heavily dezincified also

Shaft:

The propeller shaft is of 30mm 'temet' steel (with iron content) in good condition and this rotated satisfactorily when turned by hand.

Securing Arrangement:

This is secured to the shaft by bolt but visibility was very limited.

Urgent Recommendation
Replace the propeller and P bracket at the next available opportunity.

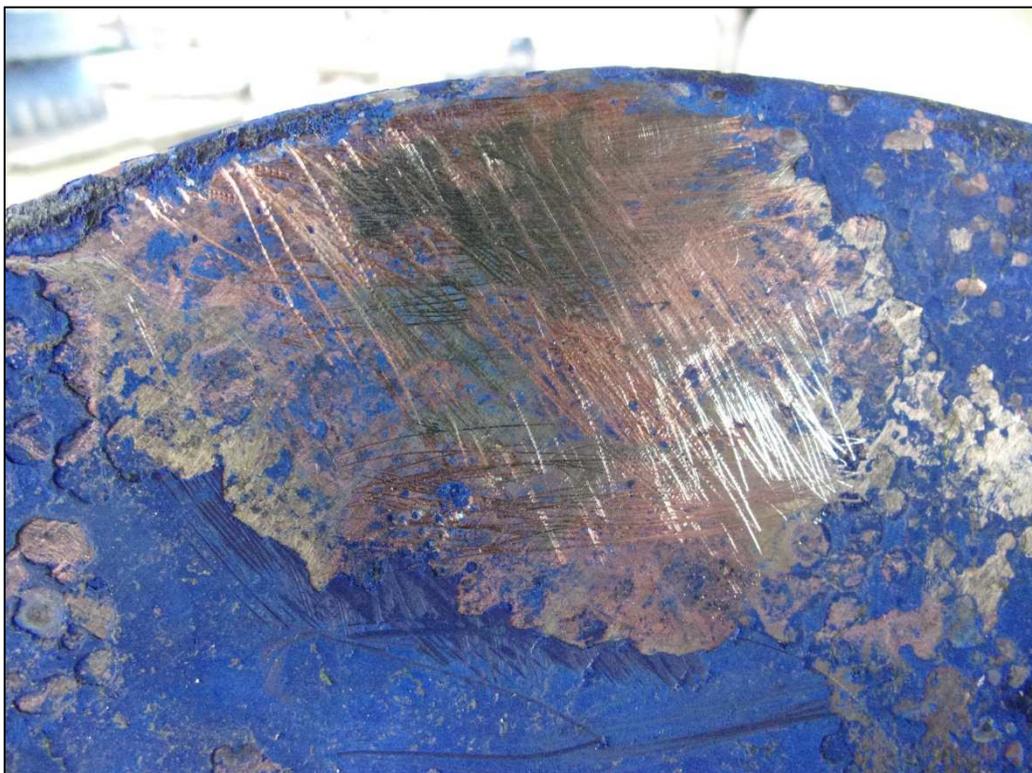


Fig.5 – signs of heavy dezincification on the propeller blades.

Cutlass Bearing:

There was play detected in the cutlass bearing and this should be replaced at the next service ashore.

Stern Tube / Bearing:

The stern tube runs through the hull exit moulding via a bronze tube which includes the bearing fitting. Externally, there are signs of dezincification and internally, there is alt water under internal end though no actual drips were seen coming out of it.

Coupling:

The rigid coupling is in a serviceable condition.

Stern Gland:

The stern gland is securely fitted but there is a drip coming from the base of the forward part and it is recommended that the stern gland is serviced and all surface corrosion removed from the surrounding fittings.

Steering Gear

Mechanism:

The rudder is turned via a quadrant itself rotated by a pulley and wire system connected to the helm wheel. The quadrant wires are clean and lightly greased but there is some slight slack in the wires and the wire securing shackles are heavily corroding.

Rudder:

The GRP rudder is an unsupported, semi-balanced aerofoil cross section types and in good condition with no signs of any major damage or repair. This produced high moisture readings (but at the lower end) and as rudders are generally 'wetter' than other parts of the hull. Readings are not at the point where concern should be given, but the rudder should be monitored at each service ashore. In addition, a small hole could be drilled in the rudder base to see if any water drains out. If no water drains out then the rudder should be allowed to dry out before plugging the hole.

Stock:

The stocks is in 50mm stainless steel but access / visibility was limited.

Recommendation

Replace the cutlass bearing at the next service ashore.

Recommendation

Service or replace the stern gland and give consideration to replacing the stern tube.

Urgent

Recommendation

Replace the securing shackles.

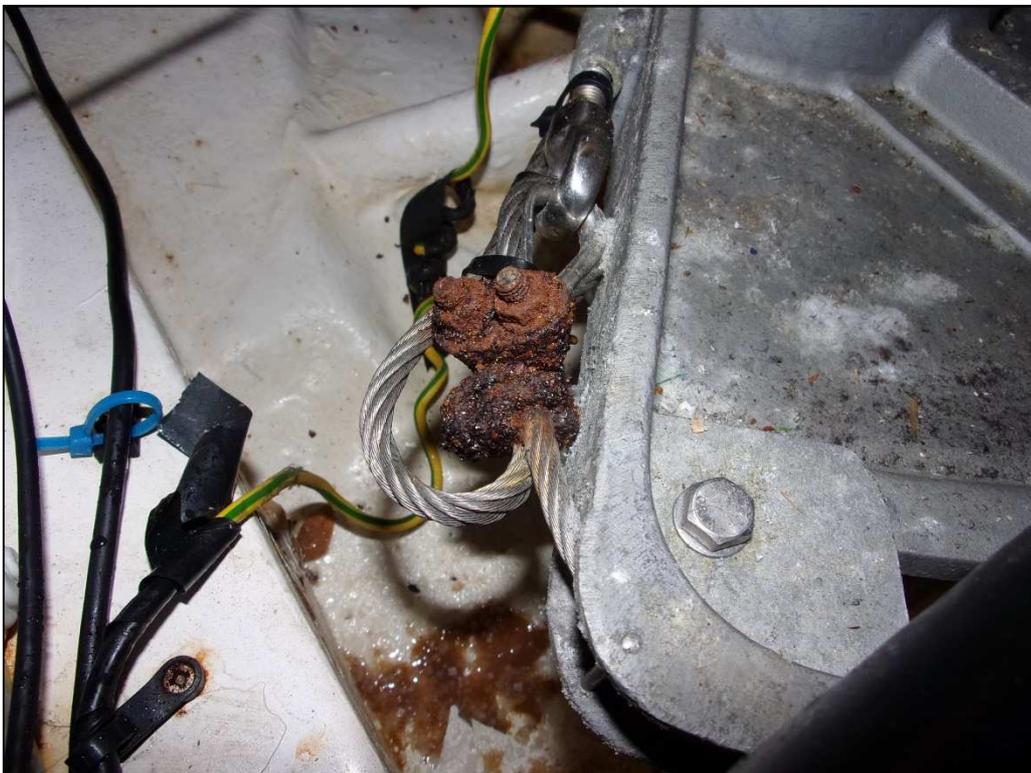


Fig.6 – steering cable connecting shackles corroding.



Fig.7 – rudder trunk gland showing leak and salt deposits.

Rudder Trunk / Gland:

The stock runs inside a supported GRP trunk with the gland located at the top. Visibility was limited but this has salt deposits noted all the way around, there is a leak 'run' down the side of the trunk and there is salt water in the bilge under the quadrant.

Bearing:

There is no play detected in the bearing but it is advised to change this all the same when the rudder gland is changed to ensure equality in condition.

Emergency Steering:

The emergency tiller slots into a machined take up in the top of the rudder stock, accessed through a deck cover on the stern deck.

Bow Thruster:

The bow thruster is a five blade, single propeller type but this has dropped as the bottom blade has dug itself into the tunnel base and the unit needs to be reinstalled.

Deck and Superstructure

Deck:

The deck is in white GRP with non-slip panels moulded into the horizontal surfaces. There are scuffs and small stress cracks at various spots around the deck edge / inboard side of the toe rail consistent with previous heavy use but nothing of any major concern and are therefore mainly cosmetic. There is a medium stress crack at the base of the cockpit moulding on both sides by the helm. The overall deck surface is dulled in appearance but there are no signs of any major damage or repair.

Superstructure:

The superstructure is in white GRP with non-slip panels moulded on the horizontal surfaces. This is in overall good condition but there are some minor chips present in areas and the surface is dulled in appearance and there is light gel crazing /grey rub marks from repeated rub and wash downs but there are no signs of any major damage or repair.

Hull Deck Joint:

The deck is laid over the hull, sealed together with the toe rail / fender unit screwed through the top. Where visible, there is no sign of any movement.

Recommendation

Replace the trunk gland and remove all standing bilge water.

Urgent Recommendation

Reinstall the bow thruster to ensure free movement of the propeller.

Suggestion

Repair all surface cracks on the deck or monitor for any worsening and repair when necessary.

Recommendation

Monitor the crazing and consider recoating with fresh gel.

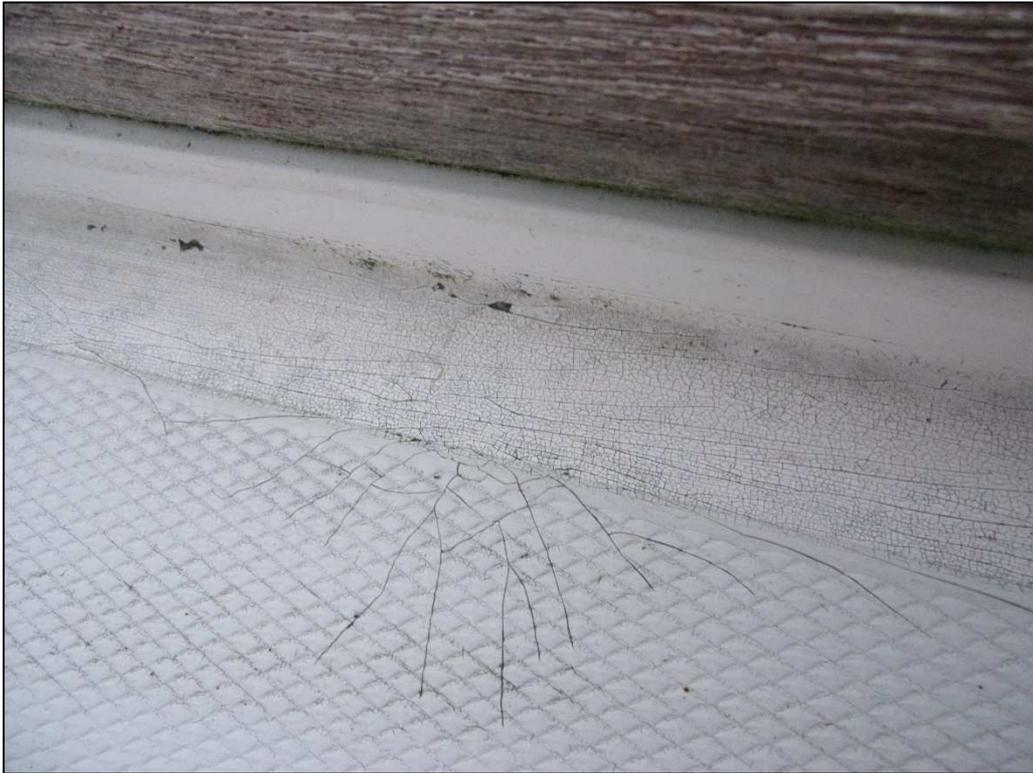


Fig.8 – example of minor stress cracking at the deck edge.

Inner Tray:

There is a GRP inner tray matrix bonded to the hull with the wooden flooring affixed to this. This is in good condition with no signs of any movement where seen.

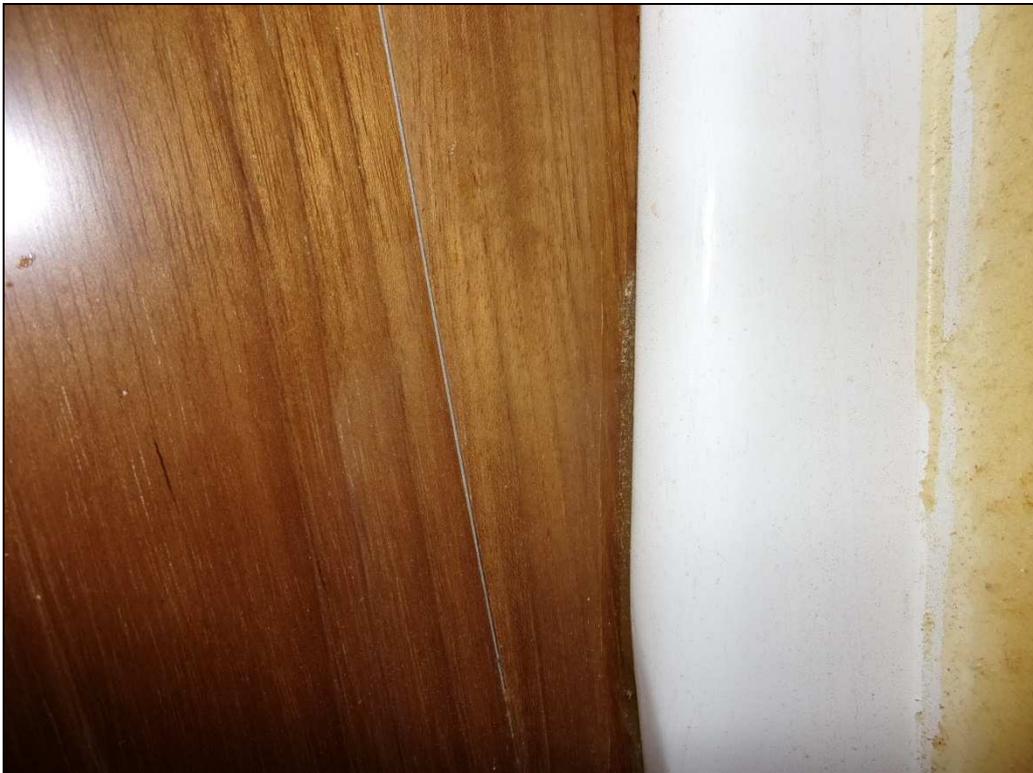


Fig.9 – bulkheads bonded / sealed to hull side mouldings.

Floors / Stiffening:

There are stingers, floors and partial bulkheads formed as part of the inner deck tray and these are all bonded to the hull and where seen, there are no signs of any movement present.

Bulkheads:

The main and partial bulkheads are in marine ply, bonded securely to the hull mouldings and where seen, there were no signs of any movement.

Hatches, Windows and Port Lights

Main Hatch:

The main hatch consists of a single, vented acrylic washboard located in secure stainless steel runners. This securely locks to an acrylic sliding cover with teak pusher running on aluminium sliders and the operation is smooth. When the slider is pushed fully open, there is a slight rattle coming from under the coach roof cover.

Fore Hatch:

There is a 'Lewmar' 515mm square, forward hinged, aluminium framed fore hatch with good condition acrylic glazing and sound seal, securely fitted over the forward cabin. This has two internal, lockable handles and no leaks were evident.

Additional Hatches:

There is a 'Lewmar' 515mm x 385mm square, forward hinged, aluminium framed fore hatch with good condition acrylic glazing and sound seal, securely fitted over the saloon. This has two internal, lockable handles and no leaks were evident.

Windows:

There are the following installations:

- There is helm based wraparound window with a white painted aluminium frame and good acrylic glazing. This is in average condition but coming away at the outboard ends, the outer sealant is poor and dirty and the inner seals are poor with water / mould collecting and the installation is somewhat flimsy.
- There are two aluminium framed, sealed windows located forward in the saloon. These are secure with no leaks but the inside seals are dirty and dry in areas.
- There are two acrylic, elliptical panes boned to the hull in the aft cabin with no leaks noted.

Portlights:

There are seven openable, aluminium framed and acrylic glazed portlights, securely fitted throughout the accommodation. All are secure and serviceable but with dirty seals though no leaks were noted.

Mast, Spars and Rigging

Mast:

The 'Selden' anodised aluminium mast is in good condition as seen from the deck. The fittings and plates are in a good serviceable condition.

Boom / Kicker:

- The 'Selden' anodised aluminium boom is sound, secure and the mast mounting bracket is secure, pinned and in a good serviceable condition.
- The 'Selden' anodised aluminium rod kicker is in a serviceable condition with secure mounting bracket though all shackle pins are not secured against accidental unscrewing.

Foot / Step:

The mast is deck stepped on the coach roof moulding and a compression post is built in to the saloon and securely fitted to the keel moulding, though visibility was limited. It is securely pinned through to the foot, which in turn is securely bolted to the re-enforced deck moulding though there is a stress crack running parallel to the foot on the port side and this should be monitored for any worsening if not repaired. All through wiring is neat, watertight and internally, no evidence of leaks were noted.

Spreaders:

There are twin pairs of aluminium, swept back spreaders securely pinned into sockets riveted to the mast when viewed from the deck.

Recommendation

Service the helm based window frames and remove all mould / water.

Recommendation

Ensure all rigging shackle pins are secured against accidental unscrewing.

Recommendation

Repair the stress crack and monitor.



Fig.10 – stress crack on the port side of the mast coach roof moulding.

Stays:

There are the following installations:

- A 'Selden' Furlex 200S furling system forestay, which is in good condition and securely fitted and pinned to the chainplate.
- The aft stay consists of a single 8mm 1 x 19mm stainless steel wire secured to a stainless steel bottlescrew which is pinned but not taped. The installation is secured the stern via a stainless steel chainplate.

Shrouds:

There are the following installations:

- 8mm 1 x 19 stainless steel wire cap shrouds, securely fitted and tensioned.
- 7mm 1 x 19 stainless steel wire inters / forwards securely fitted and tensioned.
- 8mm 1 x 19 stainless steel wire lower shrouds, securely fitted and tensioned.

Rigging Screws:

The stainless steel bottlescrews are in a good serviceable condition, pinned to the deck plates. The screws are all pinned but not taped.

Chainplates / Reinforcements:

- The reinforcements for the shrouds are in stainless steel and will be secured to GRP webs inside the saloon, located behind the wooden linings though access was not possible to inspect them but the internal arms are secure.
- The forestay is secured via a chain plate to the top of the bow stem and is sound and secure with no evidence of any movement.
- The aft stay is connected through the stern and could only be examined externally with no movement noted.

Machinery

Engine:

The engine details are:

Make	Yanmar 4JH3E 4-cylinder diesel engine
Max rating	56hp @ 3,800 rpm
Serial no	E25549
Engine hours	2722

The engine is in overall good cosmetic condition showing evidence of having been regularly serviced and maintained. However, the alternator was very hot after only 10 – 15 minutes run time and the adjacent insulation was beginning to burn.

Gearbox:

The saildrive details are:

Make	Kanzaki KBW20-1
Ratio	2.62:1
Serial No	n/a

Bearers and Mounts:

The engine is firmly secured to lengthwise strong GRP beams via four engine mounts. These are in good condition overall though there is some light surface corrosion in areas but there is no excessive detectable movement of the engine when rocked by hand.

'Yacht Name'

Statement

This report is a true and accurate description of '██████' 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 potential 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.



Rupert Keyzar
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11th December 2018

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