



Marine Surveys UK

"Pragmatic Surveys in Plain English"

www.marinesurveysuk.com

[Yacht surveyor](#), Affiliate member

YDSA, Full member BMSE, MECAL

MCA coding surveyor

Survey Report no: [REDACTED]

Marine Surveys UK, Matthew West
4 Brook Cottages, Mill Lane
Westbourne, Emsworth
Hants, PO10 8RT
07798554535

matt@marinesurveysuk.com

Name of Vessel: "[REDACTED]"

Type of Vessel: 2002, Beneteau Oceanis 311 Clipper,
FRP (fibre re-enforced plastic), Bermudian sloop
sailing vessel

Type of survey: Pre-purchase

At the request of:

[REDACTED]

This survey was carried out on the [REDACTED] February 2011 on the hard and
in the water at Mercury Yacht Harbour, Satchell Lane, Hamble -Le
Rice, Hampshire. The above named being a prospective purchaser of
the vessel.



Limitations:

- ✚ Where access is restricted by fixed panels, linings etc. it was not possible to examine and I cannot say those areas are free from defects.
- ✚ This report has been prepared for the use of the commissioning client and no liability is extended to others who may see it.
- ✚ In some cases it is not possible to detect latent and hidden defects without destructive testing which is not possible without the Owner's consent.

Scope of Survey:

- ✚ This is a Pre-Purchase Survey and its purpose is to establish the structural and general condition of the vessel. Where items of equipment have been tested this will be stated in the text.
- ✚ Camera equipment was used in places to view normally inaccessible areas and the pictures analysed to identify any issues.
- ✚ A general inspection of the engine and installation will be made; this is a visual inspection and also running the engine but not under load. It should be appreciated that some components may appear serviceable but found to be defective when the engine is run for a long period of time.
- ✚ The vessel was surveyed in and out of the water and tests carried out as described to ascertain any possible sources of water ingress.
- ✚ The hatches and port lights were not leak tested with a hose.

Recommendations:

- ✚ These will not be made concerning cosmetic or other minor defects, although relevant suggestions may be made in the text.
- ✚ Recommendations will be restricted to those defects which should be rectified before the vessel is used, (or within a given time span if specified), and items which may affect insurability.
- ✚ ***Recommendations will be printed in bold italics for quick reference.***
- ✚ The recommendations are contained in the body of report in order that they may be read in context, and are also listed as part of the conclusions at the end of this Report.

Conditions of Survey:

Vessel was examined on the hard, its keel resting on two blocks and supported by wooden chocks all at Mercury Yacht Harbour. It was seen lifted, launched and then examined moored up in the water.

No special conditions affected the survey other than as described in the text.



Information is reported in the Sections below, followed by recommendations and conclusions.

Hull, Deck and Structure.

1. Details of Subject Vessel, (General Description, Dimensions, Registration etc.).
2. Keel.
3. Hull below Waterline.
4. Topsides above Waterline including Rubbing Strake etc.
5. Deck Moulding.
6. Coach roof.
7. Cockpit.
8. Hull/Deck Join.
9. Bulkheads and Structural Stiffening including Internal Mouldings.

Steering, Stern Gear, anodes and Skin Fittings

10. Rudder and Steering.
11. Stern Gear.
12. Cathodic Protection.
13. Skin Fittings and other through Hull Apertures.

On Deck.

14. Main Companionway and other accesses to accommodation.
15. Ports Windows etc.
16. Pulpit, Stanchions, Pushpit, Lifelines and Jackstays.
17. Rigging attachment points.
18. Ground Tackle and Mooring Arrangements.
19. Other Deck Gear and Fittings.
20. Davits and Boarding Ladders.

Rig.

21. Spars.
22. Standing Rigging.
23. Running Rigging.
24. Sails and Covers etc.

Safety.

25. Navigation Lights.
26. Bilge Pumping Arrangements.
27. Fire fighting Equipment.
28. Lifesaving and Emergency Equipment.

Engine.

29. Engine and Installation.
30. Fuel System.

Accommodation and onboard Systems.

31. Accommodation General.
32. Gas Installation.
33. Fresh Water Tanks and Delivery.
34. Heads.
35. Electrical Installation.
36. Electronic and Navigation Equipment.
37. Heating & Refrigeration



1. Details of subject vessel:

The Beneteau Oceanis 311 Clipper is a standard production boat designed by Group Finot for Beneteau Yachts, Z.1 des Mares, BP66, 85270, St-Hilaire-de-Riez, France. Of FRP construction with a Bermudian Sloop rig, single spreader mast. The 311 evolved from the First 310. "Top Toy" has a fin keel and single rudder.

Manufacturers' information from owner manual aboard (not verified by measurement)

Length Overall	9.5m
Beam:	3.23m
Draft:	1.45m
CE Specification	0607

Boat specific information

Registration	British SSR [REDACTED] (marked on transom)
HIN number	FR BEY837[REDACTED]A202 – (from Builders certificate and number on hull 7[REDACTED]).
Year of Build	January 2002, Model 2002
CE	Category B, 6 persons, Less than 4m wave height and less than Force 8 Beaufort Cat C = 8 persons Maximum load 1170KG

2. Keel

- a) The vessel has an iron fin keel with large iron bulb at the bottom. The keel is attached to the hull with stainless steel bolts and stainless steel backing plates. These are configured single at front, 3 pairs one behind other, then 3 single bolts one behind each.
- b) The keel was painted with blue antifouling with no serious growth. The keel was checked in tension and resting.
- c) The keel is lying fair to the hull, with no signs of distortion at the joint. The joint was well filled with sealant.
- d) The underside of keel was checked as was the whole keel and there were no signs of impact or repairs although there is less antifouling applied.
- e) Access was possible to all bolts from inside the vessel. These were hammer tested and found, clean and not corroded.
- f) The bilge of the boat was dry.



3. Hull below Waterline:

- a) Construction of the hull below the waterline is solid FRP construction with white gel coat.
- b) The vessel was seen sitting on its keel supported by wooden chocks; no distortion was noted in the hull except just aft of the keel there was noted 3mm deep curve in hull over width of 150mm, this remained when boat was lifted so conclusion is boat has settled to this shape from new.
- c) Light hammer sounding was carried out (not heavy enough to damage anti-foul) of hull at regular intervals approximately 500mm spacing all over. No sounds of delaminating were noted.
- d) The antifouling was removed in 17 patches approximately 50mm x 50mm at random around the hull below the water line. There were at least 2 layers of antifouling well applied. These were applied over what appears to be 2 layers of epoxy coating (one grey layer, one green layer), possibly Gel shield. While scraping I was looking for evidence of wicking or blistering and once removed all patches were checked with 10x magnification. No evidence was found.
- e) There are no visible signs of significant damage or repairs to the hull below water line.
- f) Moisture readings were taken where the antifouling was removed using a capacitance type moisture meter of Sovereign Quantum type, operating in both shallow and deep reading modes. The meter was first checked for correct calibration.

The readings recorded below are from the meter operating in the shallow and also deep mode on the relative scale 0-100.

The readings are relative and **do not** express moisture content as a percentage of dry weight. High moisture content is not generally a structural defect, and is to be expected in older boats. However where some moisture has been absorbed the likelihood of moisture related problems occurring is higher, and the actual state of the laminate cannot be completely guaranteed without destructive testing followed by chemical analysis. The opinion given in this survey is based on all the evidence available at the time but without destructive testing.

The conditions prevailing when the readings were taken were as follows:

Air Temperature:	13.5°C
Relative Humidity:	63.6%
Time ashore	4 months (from November 2010)
In summary the weather conditions for obtaining moisture readings were good	

Readings were as follows:



Meter	Range below waterline.	Range above waterline.
Sovereign Quantum, Scale A, 0-100 Shallow mode	14 – 17	11 - 14
Deep Mode	11 - 16	7 - 11

The interpretation of the readings in shallow mode range;

- 0 – 15 : For all practical purposes may be considered dry.
- 16 - 20: Some moisture present at low levels but of no great concern.
- 21 - 30: Considered medium, but those at the top of the range i.e 30 are at the point where the risk of moisture related defects developing is significant.
- 31- 45 Considered high and at a level where the risk of moisture related defects being present but not yet physically detectable is significant.
- 46 – 60 Very High and will usually be accompanied by physically detectable signs. Likely to be accompanied by a significant increase when switching to deep mode.
- 61 – 100 extremely high and indicative of possible laminate damage in addition to osmotic blistering. Likely to be accompanied by a significant increase when switching to deep mode.

These readings need to be considered in conjunction with the period the vessel has been ashore and the weather conditions when obtained. As a rule of thumb you can expect the levels to drop by one range after a few weeks ashore.

The difference between readings above (normally dry) the water line and below should be noted. In this case minimal.

Always storing the boat ashore out of season to allow some natural drying out to occur will contribute significantly to maintaining condition.

4. Topsides above Waterline including Rubbing Strake:

- a) Constructed of FRP with a foam core towards the upper edges finished in white gel coat.
- b) Top side moulding found fair with no signs of major damage or impact.
- c) There is a minor star crack in the gel coat on the transom.
- d) The topsides were lightly hammer sounded and no indication of voids found. Moisture readings were taken and recorded as above.

Advisory note – Star cracks in the gel coat, if not repaired should be heavily waxed to prevent water ingress into the laminates.



5. Deck moulding:

- a) The deck is of FRP with a foam core in places. Moulded in white non slip. There is limited access to the underside except in cockpit lockers and anchor well.
- b) Moisture readings were taken and recorded 10 - 13 shallow with no change on deep mode.
- c) The whole deck was carefully tested underfoot and no sign of delaminating or other structural defect found.
- d) The deck was lightly hammer sounded with no significant defects found.
- e) There are minor stress crack in the gel coat around the starboard aft pushpit (metal frame) leg

6. Coachroof:

- a) Integral with deck moulding and constructed in the same way.
- b) The whole area was carefully tested underfoot and no sign of delaminating or other structural defect found.
- c) There was no flexing of the coach roof area below the mast when the shrouds were flexed.
- d) Hand rails were tested with a lever and found secure.
- e) Moisture readings taken as per deck above.

7. Cockpit:

- a) Integral with the deck moulding with drainage through the open transom.
- b) Seats have teak faced ply attached with glue, no screws, which prevents moisture getting into deck through screw holes.
- c) A large cockpit locker starboard side has a secure means of closure, a deep lip to prevent water going in, and hinges were found sound.
Advisory note:- This locker is large enough to get into, to prevent getting shut in by accident, ensure always secure with lanyard when open.
- d) Transom seat lifts out, and is not attached by lanyard. Care needed when taking out not to drop it overboard.

8. Hull/Deck Join:

- a) This is a bonded and mechanical joint. The hull is moulded with a flange which the deck is bonded to with epoxy paste and has aluminium toe rail attached with stainless steel screws through the joint. All stanchion bases and pushpit / pulpit are bolted through the joint.
- b) The aluminium toe rail is in one piece, all found fair and tight to the deck with no signs of significant damage or distortion.
- c) The joint is accessible along most of the inside of the hull outboard of the inner lining. No leaks were found where seen. The bonding paste is not squeezed out along the length which is a bit unusual but there is no sign of movement.



9. Bulkheads and Structural Stiffening including Internal Mouldings:

This is a Monocoque (single box) construction and a number of components contribute to the overall structure.

- a) The shell mouldings are robust in the first place.
- b) A forward bulkhead sits atop the forward floor and is bonded to it.
- c) There is a full inner liner bonded to the hull and a second to the underside of the deck giving further strength.
- d) The floors are top hat sections of the inner liner. (Floors in this case are FRP box sections spanning the hull bottom but not continuing full height to deck level).
- e) The various under berth lockers are also bonded to the hull adding to the strength.
- f) The main mast compression loadings are transferred through the deck down a stainless steel king post sitting atop a floor above the keel. There are no signs of movement or distortion in this area.
- g) Bulkheads were carefully hammer sounded near the deck, hull and floors with no faults found.
- h) The Floors and inner mouldings are well bonded with no signs of movement or cracking found.

10. Rudder and Steering:

- a) This boat is tiller steering direct onto the rudder stock. The wooden tiller has a stainless steel cap attached to the tiller joint bolted to the top of the FRP rudder stock. (pole down centre of rudder). The rudder tube is laminated at the base. There are white nylon bearings top and bottom of the stock. Rudder is an FRP moulded blade hung from hull. The blade is made from two mouldings laminated together around a foam core and normally stainless steel frame but possibly no frame in this model.
- b) Secondary steering via Raytheon ST2000+ wheel mounted pilot.
- c) There is full movement lock to lock. When tested under full body weight on either lock, no gaps appeared at the joins of the rudder.
- d) There is slight play in the lower bearing but not excessive.
- e) Rudder has same antifouling coatings as hull. Two patches were removed as per hull. Moisture readings were 30 shallow and 28 deep. This indicates that some moisture has penetrated the foam core although there are no external signs of damage or signs of ingress.

Advisory note:- It is not at all unusual for rudders constructed this way to have water in the core and this one does not appear excessively wet.

11. Stern Gear:

- a) It is a 2 blade bronze propeller, secured with nut and tab washer, on stainless steel shaft running through a stainless steel stern tube bonded in hull with a rubber cutlass bearing outboard end and a Volvo Penta water lubricated lip seal inboard end secured with stainless steel clip.



- b) Inboard lip seal is water fed from yellow metal skin fitting with strainer fitted outboard, and a valve made of DZR (dezincification) inside. These were vigorously tested and found secure. 2 clips attached to both ends of the water feed hose. A mirror was used to check the underside of the seal clip and no corrosion noted.
- c) Propeller was scraped to reveal shiny yellow metal. It was struck on the blade and edge to check for dezincification, none was found. There is no damage to the blades.
- d) Nut is securely fitted.
- e) Slight play in the outboard cutlass bearing.
Advisory note:- Cutlass bearings are intended to wear. This one should be replaced next time boat is hauled.

12. Cathodic Protection:

- a) There is a hull anode mounted port side, this is partially wasted.
- b) There is a propeller nut anode which is not wasted but loose on its fixing.
- c) Both anodes were tested for continuity to the propeller, shaft and stern gland. This was confirmed except for the stern tube which is not bonded but is stainless steel and so less likely to have a problem.

13. Skin Fittings and other through Hull Apertures:

Some thru hulls may not be reported below but will be with relevant systems sections. No skin fittings or valves were dismantled as part of this survey but the following routine tests were carried out:

- ✚ Examination from outside and inside the boat. Checked for de-zincification
- ✚ All valves open and closed to their full extent where possible.
- ✚ Any fixing bolts hammer tested where accessible.
- ✚ Bodies of metal valves or sea cocks tested with a hammer inside the boat and external parts hammer tested outside the boat.
- ✚ Fittings aggressively tested inside the boat for security in the hull.
- ✚ Hose clips inspected and hoses aggressively tested for security. 2 clips correctly fitted on outlet spigot unless noted.
- ✚ Lying fair to hull unless noted

Below Waterline:

- a) Head sink drain – Bronze thru hull with DZR valve. Located starboard side, heads cupboard.
- b) Galley sink drain bronze DZR valve. Located port side, galley cupboard.

Above waterline

- c) Plastic skin fittings in cockpit locker for gas locker, manual bilge pump and shower drain and auto bilge pump combined.



Advisory note. Care should be taken when stowing items in the cockpit locker not to damage the plastic skin fittings.

14. Main Companionway and other Access to Accommodation:

- a) Companion way hatch is sliding Plexiglas. Secure in its runners. Washboards are teak faced ply in two pieces with vent that fit in alloy runners and will stay in place except in full inversion.
- b) Both Fore hatches are Lewmar aluminium framed, perspex cover, hinged aft. Gaskets intact. Secure method of closure with 2 handles that can be opened from outside.

15. Ports, Windows etc.:

- a) Saloon coach roof has two Perspex windows in aluminium frame. No visible signs of leakage.
- b) Two windows below the weather deck are bonded into the hull.
- c) Various opening hatches by Lewmar, all checked, all found secure, gaskets intact.
- d) No opening hatches or ports below the weather deck except into cockpit from aft cabin.

16. Pulpit, Stanchions, Pushpit, Lifelines and Jackstays:

- a) Twin guard rails around deck, in plastic sheaves, stainless steel, with tensioning buckles. All found secure.
- b) Pulpit, stainless steel. Bolted through deck with large nut and washer below. Secure under full body weight.
- c) Pushpits, stainless steel, bolted through deck with washers underneath. Both aft centre fixings have movement but are both secure under full body weight.
- d) Stanchions stainless steel flush on bases have movement but are secure under full body weight.
- e) Webbing jackstays are in saloon, not fitted. No signs of damage to stays or stitching.
- f) 2 Life line attachment points in cockpit, and two lay flat u bolts, securely fitted with plates behind

17. Rigging Attachment Points:

- ✚ All attachment points were tested visually with 10 x magnification
- ✚ Nuts and bolts struck with hammer against sheer where possible
- ✚ Checked with magnet for quality of steel where possible
- ✚ Fittings tested with a substantial crowbar on wood block

Unless noted below, no movement found. No sign of seepage via deck fittings.

- a) Main mast shrouds and lowers attachment points. Stainless steel u bolts, bolted through toe rail and then deck. No access to underside of deck to check nuts. There are no knees or added strength below.
- b) Backstay is attached to metal plate bolted in sheer to the transom with 3 bolts and washers inside.



- c) Forestay attached to large alloy stem head, bolted through deck. Nuts checked in anchor well and found secure.

18. Ground Tackle and Mooring Arrangements:

- a) Main Anchor is Delta type, weight not marked on it but sufficiently large. Securely shackled with swivel joint to 8mm chain and 3 strand warp. The chain was not laid out on deck and checked link by link, checked in locker only. Warp attached to bitter end. Length not checked. Condition is good.
- b) Single bow roller on alloy stem head, hammer tested and found secure. No pin to stop chain jumping off roller when at anchor.
- c) Adequate mooring cleats and fairleads fore and aft, checked with crow bar and found secure.
- d) Danforth kedge anchor with chain and warp seen in aft locker. Sizes not checked but adequate for this size vessel secondary anchor.
- e) Various warps and fenders aboard in fair to good condition.

19. Other Deck Gear and Fittings:

- a) Turning blocks and jammers all found of adequate size and securely through bolted, although inspection from under limited by linings.
- b) The 3 winches (Lewmar ST30) fitted were all tested as far as possible but not under load and found no play on base and were free to turn.
- c) Genoa tracks and cars operated correctly. No faults found.

20. Davits and Boarding Ladders:

- a) Vessel has fixed folding boarding ladder. Which extends well below the waterline and is securely attached.

21. Spars:

Mast

- a) Main mast – Single spreader Sparcraft Mast. Aluminium anodised with masthead rig in one section. The mast was stepped so inspection is restricted to fittings and area to head height. No excessive signs of corrosion around base or fittings.
- b) No damage to the extrusion was noted. It was noted that the rigging tension is causing excessive pre bend in the mast and also the centre to bend to port.
- c) Furler Headsail furling system seen free to turn.

Boom

- a) Silver anodised in similar condition to mast.
- b) Main sheet and kicking strap attachment points secure.
- c) Goose necks no signs of wear at the mast fittings.



Recommendation:- rigging should be correctly adjusted before vessel is sailed.

22. Standing Rigging:

- a) Rigging could only be checked at deck level. These were examined where the wire enters the terminal under 10x magnification, no broken strands visible nor excess corrosion seen. The angles they enter the mast appears in line with rigging.
- b) The rigging screws are chrome plated bronze open bodied type with good articulation. Some were taped in places. Where seen were found free from distortion or visible stress cracks, when examined under 10 x magnifications.
- c) Backstay is adjusted very tight and the bottle screw is fully closed.
- d) Forestay, the wire swaged terminal viewed under the furling drum is discoloured with corrosion. The wires were checked with spike and hammer and could not be separated.
- e) Starboard side lower shroud upper fitting is not inline with the wire which can cause failure.

Advisory note:- When rigging is adjusted, make sure starboard lower shroud is set inline with terminal.

23. Running Rigging:

- a) Running rigging has all been removed and is below decks. In good condition some ends need to be burned closed.

24. Sails and Covers etc:

- a) The main and genoa have been stowed at sail loft having been laundered and checked. I had sight of these in bags and they appear clean and well maintained with life for cruising still in them.
- b) Blue spray hood stainless frames stowed below. Material and plastic screens in fair condition.
- c) Cruising chute in bag in aft cabin, stitching checked with 50p coin (blunt edges) for wear. No signs wear or damage noted.



25. Navigation Lights:

Vessel fitted with lights of correct size, securely mounted and seen working unless noted.

- a) White on stern
- b) Bicolour on pulpit.
- c) Steaming light on mast.
- d) Mooring light at mast head with Tri colour above. (Tri-colour not seen working)

26. Bilge Pumping Arrangements:

- a) Manual bilge pump, mounted in cockpit locker, operated from cockpit and pick up is in bilge in front of engine steps with 25mm Ø, long suction hose to access side cabins if required.
- b) Electric bilge pump, operated from main switch panel with bronze strum box (filter and non return valve). Not able to test as bilges very dry and clean. Heard running.
- c) Bilge pumps pipes are of adequate size, securely clipped. Manual bilge pump exit through plastic thru hull above the waterline starboard aft quarter. Electric bilge pumps exits with shower pump, reported above.

27. Fire-fighting Equipment:

- a) There were the following fire-fighting appliances found onboard.
 - a. Automatic 1KG Dry powder fitted in engine compartment. This is showing green on the gauge but expired 2007
 - b. 1 KG Dry powder in saloon and second in aft cabin. Showing green on gauge, no manufacture marks.
 - c. Fire Blanket reported in inventory but not seen aboard.
- b) There is an access point in the engine compartment to discharge an extinguisher without removing the steps.

Recommendation:- All extinguishers should be serviced after 5 years or replaced which is sometimes cheaper. Engine one needs doing and suspect others due.

28. Lifesaving and Emergency Equipment:

The owner advised that the following was staying with the boat

- a) Horseshoe lifebuoy.
- b) Liferaft – 4 person Zodiac– no service date seen.
- c) Danbouy with light.
- d) 4 XM gas inflatable life jackets. All showing green on gauges. 4 Safety lines
- e) Emergency antenna
- f) Throwing strop.
- g) Floating light.



29. Engine and Installation:

- a) Engine is Volvo Penta MD2020 D BT fresh water cooled. Number 510232 [REDACTED]
- b) Engine hour meter shows 805 hours.No service records seen.
- c) Engine and bilge is clean, no signs of water or diesel leaks.
- d) Exhaust system is marine grade, well clipped at engine and stainless and rubber hose water trap mounted behind engine, swan neck in transom locker to deck level and exits through stainless steel fitting at waterline. Hose is no longer clipped to underside of deck and is moving around.
- e) Gear and throttle cables well attached and clipped and operate as intended via control mounted on cockpit locker with no protection behind.
- f) Engine mounts are flexible mounted to moulded engine bearers. Tested with crow bar and found secure. No signs of damage or wear found.
- g) Seawater intake has bronze strainer on hull, yellow metal thru hull with DZR valve. Plastic filter is mounted in the engine compartment, above the waterline and found clear.
- h) Engine compartment is vented via natural ventilation, plastic vent hoses run through the cabin and vent through the transom just below deck.
- i) Oil in engine was checked and found very clean, note on chart table states engine oil and filter changed. Checked again when run and still clean.
- j) Water in heat exchanger, clean green anti corrosion mixture.
- k) There is black dust indicating alternator drive belt wear. This belt is set too tight and may be the casue.
- l) Engine started first time without need for glow plugs and heard running correctly. Exhaust water was clean, no signs smoke or soot deposits. Engine idles at 800 rpm, at this level a little "lumpy/ shakey", when increased above 1000rpm, very smooth. When fully warm, smoothes out. Gearbox very quiet and smooth to engage gears. Engine stops immediately with no run on when stopped by cable at control panel.

Advisory notes:- Exhaust hose should be clipped up in transom area. Adjust alternator drive belt

30. Fuel System:

- a) Fuel filler is on deck and secure. Polyurethane tank mounted in port area aft of aft cabin.
- b) Fuel tank is vented through hose which is swan necked and through stainless protected vent on aft quarter. Securely clipped. No signs of leaks or smells of diesel
- c) Fuel tank remote shut off mounted on front panel in aft cabin and operates.
- d) Hoses are ISO 7840. When bent they are showing signs of perishing.
- e) CAV type primary fuel filter with alloy bowl by engine compartment.

Advisory note:- Rubber fuel hoses are starting to perish and should be replaced. They are not leaking.



31. Accommodation General:

- a) Inside is clean, including inside lockers.
- b) Cushions in good clean condition.
- c) Interior woodwork in very good order.
- d) Accommodation is ventilated with vent on coach roof, and the galley has opening hatch above the stove.
- e) Bilges are very clean
- f) There are no indications, either smell or visible, that the boat is damp except as noted.
- g) Aft cabin was damp under cushions and around aft bulkhead forward of transom. The inspection hatch to the transom from the aft cabin is wet and the wood stained. On investigation, I could not see where this was coming from but is damp and therefore suggest this is from rain water not sea water.

32. Gas Installation:

This vessel has not been MCA coded. It was built RCD/CE compliant.

Irrespective of the above all gas systems are subject to the checks listed below as part of this survey. Recommendations will be made where there is an obvious serious safety issue and these must be carried out before use. Suggestions will also be made where appropriate to enhance safety criteria, particularly with systems where there is no mandatory requirement to conform to a standard. It must be understood however that some Insurance companies require a declaration from the assured that the gas system conforms to *current* standards and if that is the case here upgrading may be required as a condition of the insurance policy.

Sources of further information:

www.calormarineshop.co.uk/rules-regs-answer.htm Comprehensive information on standards and best practice. www.boatsafetyscheme.com Even if your boat is not required to comply with this standard it contains much sensible advice and the manual can be downloaded.



Gas Observation and action table

Item	Result	Action required.
Condition and efficiency of self draining bottle storage	Bottles are mounted in sealed locker in starboard aft quarter, with 18mm Ø drain exiting hull.	
Age and condition of flexible hose at bottle.	Hose is correct but marked 2005. Correctly fitted with pressed fittings	<i>Gas hose should be replaced after 5 years</i>
Age and condition of regulator	Age unknown. Was wrapped in plastic protection not removed for inspection.	
Connection to copper pipe	Correct gland through cockpit to pipe.	
Condition of copper pipe where accessible	Very good where seen	
Is pipework adequately supported and not under stress where accessible?	Yes where seen	
Connections and Flexible pipe to cooker and other appliances	Correct glands both ends. Metal hose.	
Is cooker gimballed?	Cooker is gimballed and crash bar fitted.	
Are all appliances fitted with flame failure devices on all burners, and did these work properly under test?	FFD on burners and stove, not seen working.	
Are any appliances requiring flues properly fitted with same?	N/A	
Is a gas alarm fitted?	None seen	Consider fitting gas alarm
Is each appliance fitted with an isolating tap	Cooker yes in aft cabin locker	
If fitted did leak bubble tester function?	N/a	Consider fitting bubble tester.

Additional Observations:

None

Please note this survey is not a gas safety certificate, that is only obtainable after comprehensive pressure testing and assessment by a qualified person listed on the Gas safe register (formally CORGI) www.gassaferegister.co.uk



33. Fresh Water Tanks and Delivery.

- a) Polyurethane tanks, in forepeak under berth.
- b) Hot water calorifier mounted in cockpit locker and heated from engine and AC system. Fittings secure. No signs corrosion.
- c) Pressurised water system. All piping seen is secure and well fitted.
- d) Water tank empty so not seen operating.
- e) Transom shower head removed.

34. Heads:

- a) Toilet is a Jabsco PAR ITT with locking handle, mounted below waterline
- b) No signs of leaks.
- d) Toilet inlet is bronze thru hull, with DZR valve. Hose goes directly to toilet and no Swan neck in pipe to underside of deck. Inlet skin fitting are showing minor signs of dezincification in pink colour and indentations. This indicates the low quality fittings used.
Advisory note:- A cautious person would change these at next haul out, otherwise, check annually for deterioration.
- e) Toilet outlet is bronze through hull with DZR valve. Hose goes directly to toilet and no Swan neck in pipe to underside of deck.
- f) Pipes securely clipped to toilet.

Advisory note:- it is prudent that hoses are extended to reach below deck level in swan necks so that valves do not have to be always closed at sea to prevent accidental back fill of toilet should toilet valve fail.

35. Electrical Installation:

DC circuits

- a) 12v alternator, charging
 - a. 1 x 12v 90ah engine start battery, gel filled, indicator light green, in plastic battery box and securely fastened in front engine. Vents into engine space.
 - b. 1 x 12v domestic battery, plastic battery box and securely fastened under aft cabin berth behind engine. Terminals tight but no insulation on positive terminals. Vents into cabin.
 - c. Via electronic isolating diode
- b) Isolating switches in + circuits, terminals tight.
- c) 12v wiring is professionally wired and neat and tidy. All circuits appear to go through separate RCD breakers on panel.

Advisory note:- Advice is to fit terminal covers to positive sides of batteries in case tools are dropped on them and cause short circuit.



240v Circuits

- a) Professionally installed 240V system with lead wired directly into All-in-one Power First combined RCD's and battery charger.
- b) 240V water heater and sockets aft locker.

36. Electronic and Navigation Equipment:

The following was seen aboard operating

- a) Raytheon ST60 Tridata
- b) Raytheon ST60 wind
- c) Raymarine RL70C radar and Chart plotter
- d) Simrad RD68 DSC VHF
- e) Radar reflector

37. Heating and refrigeration

- a) 12v refrigeration with evaporator plate in ice box. Seen working and felt cooling down.
- b) Eberspacher diesel hot air heater, well mounted in transom area, exhaust correctly fitted.



RECOMMENDATIONS and CONCLUSIONS:

Maintenance Overview:

Cosmetic maintenance: Very tidy and clean throughout the boat with minimal marks or damages

Technical Maintenance: Engine is reported to be professionally maintained and its appearance backs this up. All functions and systems were tested as reported above and operated well.

List of Recommendations:

The Recommendations made in the Report are listed below with their respective section numbers. *All Recommendations should be carried out before use of vessel or as stated.*

21. Spars:

Recommendation:- rigging should be correctly adjusted before vessel is sailed.

27. Fire-fighting Equipment:

Recommendation:- All extinguishers should be serviced after 5 years or replaced which is sometimes cheaper. Engine one needs doing and suspect others due.

32. Gas Installation:

Gas hose should be replaced after 5 years

Conclusions:

Very nice example of this model, well maintained and very clean. Rigging should be adjusted as above but other than that, ready to go once running rigging and sails refitted.