



## Marine Surveys UK

*"Pragmatic Surveys in Plain English"*

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Survey Report no: [REDACTED]

Name of Vessel: "[REDACTED]"

Type of Vessel: Beneteau Oceanis 331 Clipper,  
FRP Bermudian sloop sailing vessel

Type of survey: Pre-purchase

**At the request of:**

[REDACTED]

This survey was carried out on the [REDACTED] November 2010 in the water and in slings at Newhaven Marina West Quay, Newhaven, East Sussex BN9 9BY. 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 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.
- ✚ The hatches and port lights were not leak tested.

**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 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 in the water and for 45minutes in slings at the premises of Newhaven Marina, East Sussex having been afloat for the season. The owner was present at all times.

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.).
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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, and Skin Fittings etc.**

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.
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19. Other Deck Gear and Fittings.
20. Davits and Boarding Ladders.

**Rig.**

21. Spars.
22. Standing Rigging.
23. Running Rigging.
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**Safety.**

25. Navigation Lights.
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31. Accommodation General.
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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 331 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 331 evolved from the 321 which in turn came from the Oceanis 320 introduced in 1998. "Amie" is an owner cabin version with single aft cabin, forepeak, single heads and large galley. She has a fin keel. The owner says he has owned her from new and re-antifouls her every year.

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

Length Overall	10.00m
Length waterline	9.3m
Beam:	3.45m
Draft:	1.60m
Displacement:	4500kgs (from Finot website)
CE Specification	0607

**Boat specific information**

Registration	British SSR [REDACTED] (document in chart table)
HIN number	FRBLY93 [REDACTED] G405 – (from number on hull).
Year of Build	July 2004, Model 2005
CE	Category A, 6 persons, Beaufort 8 – 4m wave height Cat B & C = 8 persons Cat D = 10 persons (owner's Manual)

**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 white antifouling with no serious growth. The vessel was seen hanging in its slings.
- c) The keel is lying fair to the hull, with no signs of distortion at the joint. The joint was well filled with sealant and only one small area (5mm) port forward showed sign of minor corrosion (rust) at joint.



Advisory note:- When vessel is hauled ashore next, scrape any loose sealant from joint, dry and apply Sikaflex 251 sealant to prevent corrosion at the joint.

- d) The underside was checked as was the whole keel and there were no signs of impact or repairs.
- 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 completely 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 hanging in slings; no distortion was noted in the hull.
- c) Light hammer sounding was carried out (not heavy enough to damage anti-foul) of hull at regular intervals approximately 500cm spacing all over. No sounds of delaminating were noted.
- d) The antifouling was removed in 8 patches approximately 50mm x 50mm at random around the hull below the water line. There were at least 2 layers of antifouling well applied over a pink primer. These were applied over what appears to be 2 layers of epoxy coating (one grey layer, one green layer), possibly Gel shield although the owner had no knowledge of this. 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:

<b>Air Temperature:</b>	<b>6.2°C</b>
<b>Surface temperature:</b>	<b>7.4C</b>
<b>Relative Humidity:</b>	<b>62%</b>
<b>Time ashore</b>	<b>30 mins</b>
<b>In summary the weather conditions for obtaining moisture readings were fair</b>	

Readings were as follows:

<b>Meter</b>	<b>Range below waterline.</b>	<b>Range above waterline.</b>
Sovereign Quantum, Scale A, 0-100 Shallow mode	<b>18 - 19</b>	<b>13-14</b>
Deep Mode	<b>15 - 19</b>	<b>10</b>

The interpretation of the readings in shallow mode range;

- 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.

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:**

- Constructed of FRP with a foam core in places above the waterline finished in white gel coat.
- Top side moulding found fair with no signs of major damage or impact.
- The topsides were lightly hammer sounded and no indication of voids found. Moisture readings were taken and recorded as above.

**5. Deck moulding:**

- 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.
- 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.  
There is a star crack in the gel coat at the port extreme forward end of the deck, aft of the bow roller, approximately 150mm long.  
Advisory note – Star cracks in the gel coat, if not repaired should be heavily waxed to prevent water ingress into the laminates.

#### **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 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 port side has 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 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 toe rail is in sections, 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.
- d) Starboard side inboard transom edge has a small (70mm) star crack, probably caused by something striking the stern. The same advisory as per 4. D) above.



### **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) Goiot wheel steering pedestal in cockpit which swivels 90° to make cockpit access easier. Access to the underside and to the rudder tube assembly was not possible due to screwed panels.
- b) Secondary steering via Raytheon ST4000+ wheel mounted pilot.
- c) Emergency tiller access through transom and owner advised tiller aboard but not seen.
- d) Wheel has no signs of distortion and is secure on its shaft. Painted alloy is showing signs of corrosion under at base of pedestal. Pedestal was tested under full body weight and showed no movement.
- e) Rudder is large blade FRP moulded blade hung from hull. The blade is made from two moulding laminated together around a foam core and normally stainless steel frame.
- f) 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.
- g) Owner advised nylon bushes have recently been replaced.
- h) Rudder has same antifoul coatings as hull. Two patches were removed as per hull. Moisture readings were 36-48 shallow and 48-64 deep. This indicates that moisture has penetrated the foam core although there is no external signs of damage nor gel coat signs of ingress.

Advisory note:- The probable cause of water ingress is down through the shaft. It is not at all unusual for rudders constructed this way to have water in the core. They can be fixed



by drilling the rudder in places, draining off water and drying out and then injecting resin in the holes. If left, apart from the rudder being heavier than intended, it could eventually delaminate and split but this might take a number of years.

### **11. Stern Gear:**

- a) It is a 2 blade bronze propeller, secured with nut, in front of a rope cutter on stainless steel shaft running through FRP 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, DZR valve 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 and rope cutter are 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 very wasted.
- c) Both anodes were tested for continuity to the propeller, shaft and stern gland which was confirmed.  
Advisory note:- The propeller anode should be replaced at next haul out.

### **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. Thru hull was noted to be slightly pink in colour indicating a low grade Bronze has been used.
- b) Galley sink drain bronze DZR valve. Located port side, galley cupboard.

**Above waterline:**

- c) Head shower pump out combined with electric bilge pump - Bronze thru hull. Located starboard side, halfway up hull, heads cupboard.

**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) Saloon hatch is Lewmar aluminium framed, perspex cover, hinged aft. Gaskets intact. Secure method of closure with 2 handles that can be opened from outside.
- c) 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 has two Perspex windows in aluminium frame. No visible signs of leakage.
- b) Various opening hatches by Lewmar, all checked, all found secure, gaskets intact.
- c) No opening hatches or ports below the weather deck except into cockpit from aft cabin.
- d) All port lights and window acrylic are scratched and UV speckled.

**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 secure under full body weight.
- d) Stanchions stainless steel on bases. Port side amidships stanchion is slightly bent.
- e) Webbing jackstays are in forcabin, not fitted. No signs of damage to stays or stitching.
- f) 2 Life line attachment points in cockpit, 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 plate bolted through deck. No access to underside of deck to check nuts. This transfer's load via stainless steel bar attached to stainless steel plate via clevis pin and in turn around stainless steel bar bonded to hull / knee. Both knees visible and checked.
- b) Split backstay is attached to substantial U bolts. Port side seen below, plate and nuts secure.
- c) Forestay attached to large alloy stem head, bolted through deck. Nuts checked in anchor well and found secure. Slight corrosion found on one washer.
- d) Baby stay attached to U bolt on foredeck.

### **18. Ground Tackle and Mooring Arrangements:**

- a) Main Anchor is Brittany type, weight not marked on it. Suggest is 12KG. Securely shackled to 10mm chain over Lofrans electric windlass which was operated with a few meters of chain. The chain was not laid out on deck and checked link by link, checked in locker only. 19mm warp attached to bitter end. Length not checked. Condition is good. Anchor shackle is corroded as is bitter end fixing which made cracking noise when pulled hard.  
Advisory note:- Replace Anchor shackle, replace bitter end fitting, possibly use stainless steel U bolt, bolted through windlass support. See appendix fig 1
- 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) No kedge anchor found aboard.
- e) Various warps and fenders aboard in fair to good condition.

***Recommendation:- Kedge anchor of 5.5KG with 10m of 8mm chain and 30m of 12mm warp should be carried aboard.***

### **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 4 winches ( 2 x Lewmar ST30 and 2 x Lewmar ST40) 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.  
Advisory note:- Starboard genoa car centre pin C clip was broken on arrival. Owner replaced with new.



**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 Z-Diffusion Red Label Mast. Aluminium anodised with masthead rig. 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 or distortion to the extrusion was noted.
- c) Headsail furling system seen free to turn.
- d) Attachment ring for booming out spar but no spar seen aboard.

**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.

**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 main shrouds have plastic covers to prevent genoa sheets chaffing.  
Advisory note:- Plastic covers do not let water drain and dirt collects in swage. Suggest remove and replace with large diameter so water and dirt can drain.
- c) The rigging screws are chrome plated bronze open bodied type with good articulation. Some were tapped in places. Where seen were found free from distortion or visible stress cracks, when examined under 10 x magnifications.

**23. Running Rigging:**

- a) Running rigging seen appears in good condition with most ends burn closed and thimbles in place.
- b) There is a shackle holding the mainsheet to the boom fitting which is corroded and unsightly.



**24. Sails and Covers etc:**

- a) Main sail. Checked on boom as wind direction wrong and strong. Stitching checked with 50p coin for wear and found sound where seen. Some pin head size black spots indicating damp.
- b) Genoa, Technique Voile, white with white sun protection. Seen furled on furling system. Not fully unrolled. Stitching checked with 50p coin for wear and found sound where seen.
- c) Blue spray hood stainless frames. Frames securely fitted and material and plastic screens in fair condition.
- d) Cruising chute by Crusader sails in snuffer in bag and checked in bag. No signs wear or damage noted.
- e) Sail bag and lazy jacks, no damage found.

**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 no strum box. 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 port 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 1.5KG Dry powder fitted in engine compartment. This is showing red on the gauge.
  - b. 1 KG Dry powder in forepeak. Showing green on gauge, manufactured 2003.
  - c. Owner says further fire extinguisher in cockpit locker not seen.
  - d. Fire Blanket in galley
- 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. Suggest one in forepeak, one in aft cabin, one in cockpit locker plus one for engine, plus two fire buckets with lanyards are fitted before use.

## **28. Lifesaving and Emergency Equipment:**

The owner advised that the following was staying with the boat

- a) Horseshoe lifebuoy.
- b) Liferaft – size unknown and in need service
- c) RORC danbouy with light.
- d) Grab Bag, contents unknown.

The RNLI operate an excellent free inspection and advice service concerning levels of safety equipment (SEA Check) and can be contacted on 08003280600 or via the RNLI website, [www.rnli.org.uk](http://www.rnli.org.uk).

The RYA also publish a booklet, G16, "The Boat Safety Handbook" and this specifies levels of Safety Equipment for different categories of use and it is **Recommended this vessel be equipped to the level appropriate to proposed use.**

Booklet is obtainable from nautical bookshops or direct from the RYA, [www.rya.org.uk](http://www.rya.org.uk).

## **29. Engine and Installation:**

- a) Engine is Yanmar 3YM30 fresh water cooled. Number EO1 [REDACTED]
- b) Engine hour meter shows 270.5 hours.
- c) Last serviced August 2010, 268 hours. Service book seen, regular annual service from new.
- d) Engine and bilge is very clean, no signs of water or diesel leaks.
- e) Exhaust system is marine grade, well clipped at engine and plastic water trap mounted behind engine, swan neck in transom locker to deck level and exits through stainless steel fitting at waterline correctly clipped.
- f) Gear and throttle cables well attached and clipped and operate as intended via control on wheel pedestal.
- g) Engine mounts are flexible mounted to moulded engine bearers. Tested with crow bar and found secure. No signs of damage or wear found.
- h) Seawater intake has bronze strainer on hull, yellow metal thru hull with DZR valve. Green corrosion around base of hose, indicating minor seawater leak here. Plastic filter is mounted in the engine compartment, above the waterline and found clear.  
Advisory note:- remove hose from DZR spigot, clean and refit to stop water leak. Close DZR first.
- i) Engine compartment is vented via natural ventilation, plastic vent hoses run through the cabin and vent through the transom just below deck.



- j) Engine started after using glow pugs and heard running correctly. Exhaust water was clean.

**30. Fuel System:**

- a) Fuel filler is on deck above transom. Secure.
- b) Polyurethane tank, reported by Beneteau as 70 litres mounted in starboard aft cabin under berth.
- c) No signs of leaks or smells of diesel
- d) Fuel tank is vented through hose which is swan necked and through stainless protected vent on aft quarter. Securely clipped.
- e) Fuel tank remote shut off mounted on front panel in aft cabin.
- f) Pipe is ISO 7840 and well clipped.
- g) CAV type primary fuel filter with alloy bowl behind engine compartment.

**31. Accommodation General:**

- a) Inside is exceptionally 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.

**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](http://www.calormarineshop.co.uk/rules-regs-answer.htm) Comprehensive information on standards and best practice. [www.boatsafetyscheme.com](http://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.
<b>Condition and efficiency of self draining bottle storage</b>	Bottles are mounted in sealed locker in port aft quarter, with 18mm Ø drain exiting port qtr.	
<b>Age and condition of flexible hose at bottle.</b>	Hose European Marked change 2009. Does not show signs of perishing when bent back. Correctly fitted with pressed fittings	<i>Gas hose should be replaced after 5 years</i>
<b>Age and condition of regulator</b>	Age unknown. Fair condition, no signs of corrosion	Advisory note:- Replace and keep as spare.
<b>Connection to copper pipe</b>	Correct gland through cockpit to pipe.	
<b>Condition of copper pipe where accessible</b>	Not seen as behind joinery.	
<b>Is pipework adequately supported and not under stress where accessible?</b>	Not seen	
<b>Connections and Flexible pipe to cooker and other appliances</b>	Correct glands both ends. Marked change 2008. Grommet where hose passes through bulkhead come out.	<i>Cooker hose should be replaced and grommet fitted correctly.</i>
<b>Is cooker gimballed?</b>	Cooker is gimballed and crash bar fitted.	
<b>Are all appliances fitted with flame failure devices on all burners, and did these work properly under test?</b>	FFD on burners and stove, not seen working.	
<b>Are any appliances requiring flues properly fitted with same?</b>	N/A	
<b>Is a gas alarm fitted?</b>	Yes. Tested at button not sensor.	
<b>Is each appliance fitted with an isolating tap</b>	Cooker yes in locker forward	
<b>If fitted did leak bubble tester function?</b>	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](http://www.gassaferegister.co.uk)

### **33. Fresh Water Tanks and Delivery.**

- a) Two polyurethane tanks, one in forepeak under berth and one saloon under starboard berth. Owners manual report 200L
- b) Hot water calorifier (Quick Nautic Boiler) from engine and AC system. Fittings secure. No signs corrosion.
- c) Pressurised water system. All piping seen is secure and well fitted. Well laid out and marked.
- d) Seen operating at galley and heads shower.
- e) Transom shower not tested.

### **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.
- 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. Both thru hulls 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. See appendix fig 2

- f) Pipes securely clipped to toilet.

***Recommend that hoses extended to reach below deck level, until then valves should remain closed at sea unless someone in compartment***

### **35. Electrical Installation:**

#### DC circuits

- a) 12v alternator, charging
  - a. 1 x 12v 70ah 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 70ah domestic battery, wet fill in plastic battery box and securely fastened under starboard aft cabin berth. Terminals tight. Vents into cabin.
  - c. 2<sup>nd</sup> 12v 70ah domestic battery, wet fill in plastic battery box and fastened behind engine. Terminals tight. Vents into cabin. Fastening strap is frayed and nearly broken. See appendix fig 3  
Advisory note:- Replace battery securing strap.
  - d. Via electronic isolating diode



- b) Isolating switches in + and - sides, terminals tight.
- c) Windlass has isolator mounted by switches.
- d) 12v wiring is professionally wired and neat and tidy. All circuits appear to go through separate RCD breakers on panel.

#### 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 in cabins.

#### **36. Electronic and Navigation Equipment:**

The following was seen aboard operating

- a) Raytheon ST60 Tridata
- b) Raytheon ST60 wind
- c) Raymarine RC435 Chart plotter
- d) Simrad RD68 DSC VHF

#### **37. Heating and refrigeration**

- a) 12v refrigeration with evaporator plate in ice box. Seen working and felt cooling down.
- b) Diesel hot air heater, seen working but not seen as mounted behind fixed panels in cockpit locker. Exhausts through port aft quarter and vents through transom. Owner says all replaced 2 years ago.



## **RECOMMENDATIONS and CONCLUSIONS:**

### **Maintenance Overview:**

Cosmetic maintenance: Exceptionally 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.*

#### **18. Ground Tackle and Mooring Arrangements:**

*Kedge anchor of 5.5KG with 10m of 8mm chain and 30m of 12mm warp should be carried aboard.*

#### **27. Fire-fighting Equipment:**

*All extinguishers should be serviced after 5 years or replaced which is sometimes cheaper. Suggest one in forepeak, one in aft cabin, one in cockpit locker plus one for engine, plus two fire buckets with lanyards are fitted before use.*

#### **28. Lifesaving and Emergency Equipment:**

*This vessel be equipped to the level appropriate to proposed use.*

#### **33. Gas Installation:**

*Gas hose should be replaced after 5 years*

*Cooker hose should be replaced and grommet fitted correctly*

#### **34.Heads:**

*Recommend that hoses extended to reach below deck level, until then valves should remain closed at sea unless someone in compartment*

### **Conclusions:**

Very nice example of this model, well maintained and exceptionally clean. Rudder water ingress should not be a major deterrent to purchase unless class racing. Recommendations are easy, quick and relatively cheap to implement. Please note the advisory notes which would not stop the vessel being used but should be considered.



Appendix

*Fig 1 Corroded bitter end*



*Fig 2 Dezincification around skin fitting*

*Fig 3 battery strap*

