Marine Surveys UK

"Pragmatic Surveys in Plain English"
www.marinesurveysuk.com
Yacht surveyor, Affiliate member
YDSA, Full member BMSE, MECAL
MCA coding surveyor

Marine Surveys UK, Matthew West
4 Brook Cottages, Mill Lane
Westbourne, Emsworth
Hants, PO10 8RT
07798554535
matt@marinesurveysuk.com

Survey Report no: [redacted]

Name of Vessel: "[redacted]"

Type of Vessel: Hanse 315, 2006, FRP (Fibre reinforced Plastic), mono hull, Bermudian sloop rigged sailing vessel

Type of survey: Pre-purchase

At the request of:

[redacted]

This survey was carried out on the [redacted] in the water and in travel hoist slings at Port Solent Marina, Portsmouth, Hamsphire, PO6 4TH. 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. Cosmetic defects and inventory may not be reported. 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. The engine was run and seen operating under load during the sea trial. 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 and advisory notes:

- 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. These will not be made concerning cosmetic or other minor defects, although relevant suggestions may be made in the text.
- ***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.
- **Advisory notes** are suggestions to prevent a problem getting worse or general advice and do not have to be carried out before the vessel is used nor should affect the boats current insurability.

Conditions of Survey:

Vessel was examined firstly in the water moored to a pontoon and then hanging in the travel hoist slings. The weather was mixed, overcast and sunny with some rain. The cabin sole boards were screwed down and therefore access was restricted from the bilge area.

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. Hull (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 Hanse 315 is built by Hanse Yachts GMBH and Co. KG, D-17489, Greifswald and designed by Judel/Vrojlisk & Co. It is a well liked model with many forums discussing it. Built to Category A Ocean specification. She is a Bermudian sloop rigged, aft cockpit, wheel steered with self tacking foresail and fully batten main. A Yanmar 3YM20 sail drive is the propulsion.

Manufacturers' information from brokers details (not verified by measurement)

Length Overall	31' / 9.44m
Length of waterline	27'3" / 8.23m
Beam:	10'6" / 3.2m
Draft:	5'9" / 1.75m
Displacement	4300KGS
CE Specification	A , Maximum 6 persons = 450kg and persons plus luggage – 850kg

The CE category is a rating system used in the EU to rate the seaworthiness of a (sailing / motor) boat. This CE category is mainly used by European boat builders although some US sailboat builders start to build boats to this specification. The European Directive specifying the CE Categories for recreational boats between 2.5 and 24 meter in length is the EU Recreational Craft Directive (RCD).

The CE category A: Ocean.

Designed for extended voyages where conditions may exceed wind force 8 (Beaufort) and wave height of 4 meter (13' ft).

Boat specific information

Name	Sea Biscuit
Registration	None seen
Hin Number	DE-HANA0[redacted]H607
Year of Build	August 2006, Model 2007 – brokers details advise first commissioned June 2007

2. Keel

a) Keel is an Iron deep fin keel with bulb shape at bottom. The cabin sole boards were screwed down and I was not able to access the keel fixings. There was some clear water in the aft bilge below the inspection hatch.
b) Examined out of the water, the keel was seen hanging in tension. The keel is coated in a white possibly epoxy coating covered with there was no gap at the keel to hull joint which was filled with filler paste which is normal.

c) There was a fine hairline crack in the FRP at the aft end of the keel stub approximately 70mm long.

Advisory Note: The Hanse agent advised that the keel is attached to an FRP stub which then has a galvanised frame in the hull and stainless keel studs and nuts hold the keel through this. He is not aware of any issues in the 5 years he has been at Hanse with these keel fixings. I suggest the cabin sole boards are removed to have a look at the keel bolt fixings just to make sure there are no signs of movement internally and if there are none , then next time the boat is hauled, grind out and fill crack with epoxy filler.

3. Hull below Waterline:

a) Construction of the hull below the waterline is solid FRP with thicker laminates toward the centre of the hull. The gel coat is pale blue.
b) The hull is coated in two layers of grey gel coat and primer over a very well adhered white coating which I believe to be epoxy primer.
c) The hull was seen hanging in slings and no signs of distortion were noted.
d) Light hammer sounding was carried out (not heavy enough to damage the anti-fouling) of the hull at regular intervals approximately 500mm spacing all over.
e) The antifouling was removed in 18 patches approximately 50mm x 50mm at random around the hull below the water line including fore and aft of the keel. While scraping I was looking for evidence of wicking, blistering, cracking or damage and once removed all patches were checked with 10x magnification. No issues were found.
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:	**17.9°C**
Relative Humidity:	**71%**
Time ashore	**30 minutes**
In summary the weather conditions for obtaining moisture readings were **fair to good**	

Readings were as follows:

Meter	**Range below waterline.**	**Range above waterline.**
Sovereign Quantum, Scale A, 0-100 Shallow mode	**18 - 20**	**11 – 13**
Deep Mode	**14 – 20**	**11 - 14**

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 the water line (normally dry) and below should be noted.

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.

Advisory note:- I have no concerns about moisture in the hull from these readings and always storing the boat ashore out of season to allow some natural drying out to occur will contribute significantly to maintaining condition.

4. Hull (Topsides) above Waterline including Rubbing Strake:

a) Constructed of FRP with a balsa or foam core in places and finished in pale blue gel coat with white gel coat waterlines.
b) No distortions were noted in the topside mouldings
c) The topsides were lightly hammer sounded and no indication of voids found. Moisture readings were taken and recorded as above.
d) Internally the hull is mainly painted with grey flow coat. Viewed from the forward under berth locker, the lowest part of the stem has a possible thin spot or void in the laminate. See photos below. Left photo is with flash and right photo is without showing outside light. The side areas is where the white gelcoat waterlines are, the brighter lower patch is through blue gel coat.


Advisory Note: I have no issue about the water line "see through" areas because white or clear gel coat is often like this. My concern is the bright spot on the stem at the water line, because this area is right on the water line and through blue gel coat. I suggest that a couple of layers of Fibreglass cloth are laminated into the stem in case of collision.

e) The gel coat on the port side topsides has been scratched and worn possibly through rubbing against a wall without fenders. There were no cracks noted in the gel coat or laminate at this point. As the gel coat is intact and not through to the laminate a repair is not required except for cosmetic purposes.

5. Deck moulding:

a) The deck is of cored FRP finished in white gel coat with moulded in non slip. Access to the underside was restricted by headlining panels.
b) The whole deck was carefully tested underfoot for signs of delaminating or other structural defects and moisture readings were taken. No significant issues were noted.

6. Coachroof:

a) Constructed as part of the same moulding as the deck and in the same way. Access to the underside was restricted by headlining panels.
c) The whole area was carefully tested underfoot for signs of delaminating or other structural defects and moisture readings were taken. No significant issues were noted.
d) The area under the mast, was checked for deflection by pulling the shrouds and none was found.
b) Hand rails were tested with a lever

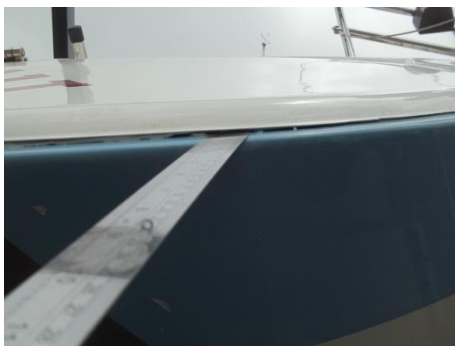
7.Cockpit:

a) Constructed as part of the same moulding as the deck and in the same way. Teak faced ply is stuck to the seat area.
b) Drainage is via the open transom area (fold down seat).
c) The cockpit sole was tested underfoot and found solid.
d) A large locker to port opens to the inside of the boat, it has a deep lip to prevent water entering. Two further lockers to aft are well hinged and also have a deep lip. All locker lids were found securely attached as was the fold down swim platform / transom gate.
e) The catch to hold the transom gate in place is missing.

Advisory note: the transom gate catch should be refitted or alternative method of securing found.

8. Hull/Deck Join:

a) This is a mechanical joint, with stainless steel screws through the toe rail and bonded with bonding paste. Access was restricted to the Anchor locker and the aft lockers.
b) The outside transom edge is coming away from the hull, I was able to insert a spike 25mm into the gap. Internally this is bonded well.

Advisory note: The Hanse agent advised this should be filled with bonding paste or Sikaflex and is not structural.

c) No signs of leaks were found inside the boat at the hull and deck joint.

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) Access was restricted by the Cabin sole and headlining.
b) The hull and deck are robustly moulded in the first place.
c) There is an inner liner bonded to the hull.
d) A stainless steel king post takes the mast loadings through the deck to the hull.
e) Bulkheads were carefully hammer sounded near the deck, hull and floors for signs of debonding.
f) All possible access was checked, lockers, under berths and the floors and inner mouldings for signs of delamination and cracks.

Advisory notes: There are some splits in the Filler around the forward bulkhead, but these are cosmetic. The real bonding is by the laminating of the plywood to the hull which is intact.

10. Rudder and Steering:

a) The rudder is an FRP blade moulded in two halves around a stainless steel stock.
b) The rudder was leant on with full body weight in either direction and did not give or any split open up.
c) The rudder was hammered sounded and moisture readings taken.
d) There was no play in the rudder bearings noted.
e) The Lewmar wheel is secure and the binnacle tested under full body weight. The stainless steel connecting arms were tight.
f) The FRP rudder tube does not extend to deck level but has a neoprene cover secured with Stainless steel clips. There is some minor corrosion on these but they are secure.

11. Stern Gear:

a) The stern gear is a Yanmar SD 20 sail drive. Number 072006. It has a two blade propeller secured with a locking nut and cone.
b) The rubber sealing gasket for the sail drive to hull is advised to be changed after 7 Years.
c) The propeller was checked and found ok.
d) Some paint is coming from the leg but there is no corrosion noted.

12. Cathodic Protection:

a) There is a ring anode in front of the propeller. This was partially wasted but OK for a season.
b) There is a drop over the side anode in the stern locker which should be used in Marinas.

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 below water line on outlet spigot unless noted.
- Lying fair to hull unless noted

Below Waterline:

a) Log-this is a plastic skin fitting.
b) Depth sounder-this is a plastic skin fitting.
c) Holding tank outlet –bronze skin fitting with DZR ball valve and elbow
d) Toilet sea water inlet - bronze skin fitting with DZR ball valve and elbow
e) Heads Sink Drain - bronze skin fitting with DZR ball valve and elbow
f) Galley Sink Drain - bronze skin fitting with DZR ball valve and elbow
g) Engine Sea water intake- Bronze valve on sail drive – some green corrosion noted.

Above waterline

h) Bilge pump outlet- bronze skin fitting with DZR ball valve and elbow
i) Showing drain outlet- bronze skin fitting with DZR ball valve and elbow
j) Gas locker drain- bronze skin fitting
k) Exhaust – Chrome skin fitting.

Advisory notes; there is some de-zincification of the galley and holding tanks skin fitting but this is minor. The engine seawater intake should be cleaned off and monitored for further corrosion. All skin fittings and valves should be regularly checked for insurance purposes.

14. Main Companionway and other Access to Accommodation:

These were all checked;

- to be lying fair to the deck
- fixings were randomly tested with screw driver for tightness
- frames checked for damage
- a secure method of closure
- correctly fitted hinges
- glazing checked for damage
- gaskets checked

All found ok unless noted. The hatches were not hose tested for leaks.

a) Companion way is a Plexiglas sliding hatch with a Plexiglas washboard. The lock, while secure when the boat is not in use cannot be used to keep the access shut when the boat is in use.
b) The fore hatch is a Lewmar, aft hinged with two catches to secure shut.

Advisory note: Consider fitting an internal lock to the washboard and sliding hatch.

15. Ports, Windows etc.:

The same checks as section 14. above were carried out. All found ok unless noted. The ports and windows were not hose tested for leaks.

a) There are 3 Lewmar opening Plexiglas portlights on the coach roof and one into the cockpit.
b) Saloon windows are Lewmar Plexiglas non opening.
c) Hatches in coach roof are also Lewmar alloy frames.

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

These are tested under full body weight where practical, terminal ends checked, type of wire tested. Life line attachment points are tested with a crow bar levered against a wooden block.

a) The pulpit and pushpit are stainless steel tube bolted through the deck. Two stainless steel guard wires are correctly fitted. Webbing lifelines are fitted around the legs and appear in good condition. Stainless steel stanchion posts are fitted in the alloy bases with a plastic sleeve. One lifeline attachment point in the cockpit.

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) The forestay is attached to a stainless steel chain plate which is bolted through the stem.
b) The twin back stay attachments are bolted through the transom upper edge with backing plate.
c) Three shrouds each side attached to a stainless steel plate bolted through the deck to a stainless steel tie rod which is bolted to a stainless steel bracket on the FRP knee which is laminated to the hull.

18. Ground Tackle and Mooring Arrangement:

a) Main Anchor is a Lewmar Delta plough type shackled to 8MM chain and 12 MM warp. The length was not measured but it was all checked and found in good conditions and is for a good length. The bitter end was tied to the chain plate.
b) A Fortress FX 11 Danforth anchor with approximately 4 m of 8MM chain and 12 MM three strand warp is stowed in the cabin and unused.
c) Mooring cleats around the boat were tested with a crowbar and found secure.

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 Lewmar ST30 winches fitted were all tested as far as possible but not under load and found with no play on the base and were free to turn.
c) Genoa tracks and cars operated correctly. No faults found.

20. Davits and Boarding Ladders:

a) Vessel has lift on/off stainless steel boarding ladder which extends below the waterline and securely attaches.

21. Spars:

a) The mast is a silver anodised single extrusion, tapered at the top, twin spreader and deck stepped. As it was stepped, it could only be checked to head height closely.
b) There are no signs of corrosion around any of the fittings and the extrusion appears straight with no signs of damage
c) The boom is also silver anodised and no faults were noted.

d) The fixings were checked for the solid boom bang and found ok.
e) The goosekneck was in good condition.

22. Standing Rigging:

a) The rigging is 1x 19 stainless steel in roll pressed terminals. Chrome bronze open bottle screws are fitted to the shrouds.
b) Rigging was examined where the wire enters the terminals under 10x magnification, no broken strands visible nor excess corrosion seen. The angles they enter the mast appears in line with rigging.
c) The rigging screws were examined under 10 x magnifications and no faults found.
d) There is some minor corrosion on the lower shroud wires but not significant.
e) The backstay is split type and adjustable and in good condition.

23. Running Rigging:

a) Running rigging that was seen was in fair condition

24. Sails and Covers etc:

a) The foresail is a white North Sails furling jib, checked on the furling system.
b) The mainsail is a white North Sails fully battened, checked furled on the boom.
c) Stitching was checked with a 50 pence coin (a blunt edge) and was found in good condition where checked. The cloth was generally in good condition however both sails have gone slightly mildew where they have been in the rain. A good clean should sort this out.
d) The boom cover is grey canvas and is also a bit mildew, with some small holes.
e) The sprayhood is also grey canvas and slightly dirty but okay.

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
e) Compass light

26. Bilge Pumping Arrangements:

a) A Plastimo manual bilge pump is mounted in the cockpit with the pickup in the bilge in the saloon with a strum box fitted. It exits the port aft as noted above.
b) An automatic electric bilge pump, submersible type with a float switch is located also in the main bilge and exits through the same skin fitting as the Manual pump.
c) There was water in the bilge, which cannot be fully extracted by the pumps.

27. Fire-fighting Equipment

Following firefighting equipment was noted for

a) 2 x 1 KG powder fire extinguisher rated 5A34B – expiry date 31/12/2010
b) An orifice into the engine compartment to discharge a fire extinguisher.

Recommendation: there are no regulations covering private vessels at use in the sea, however I recommend a fire blanket is located at the galley if gas is to be used as per the boat safety scheme for riverboats.

28. Lifesaving and Emergency Equipment:

The following was noted aboard

a) Flares-4 red hand held, 4 white handheld, 4 parachute and two orange smoke all expire 12/2010.
b) A horseshoe lifebuoy with a floating light
c) A man overboard sling
d) Two Personal life jackets and buoyancy aids in the fore cabin were not on the inventory sheet and not checked.

Advisory notes

- 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.
- The RYA also publishes a booklet, G16, "The Boat Safety Handbook" and this specifies levels of Safety Equipment for different categories of use. Booklet is obtainable from nautical bookshops or direct from the RYA, www.rya.org.uk.

Recommendation - this vessel be equipped with safety equipment to the level appropriate to proposed use.

29. Engine and Installation:

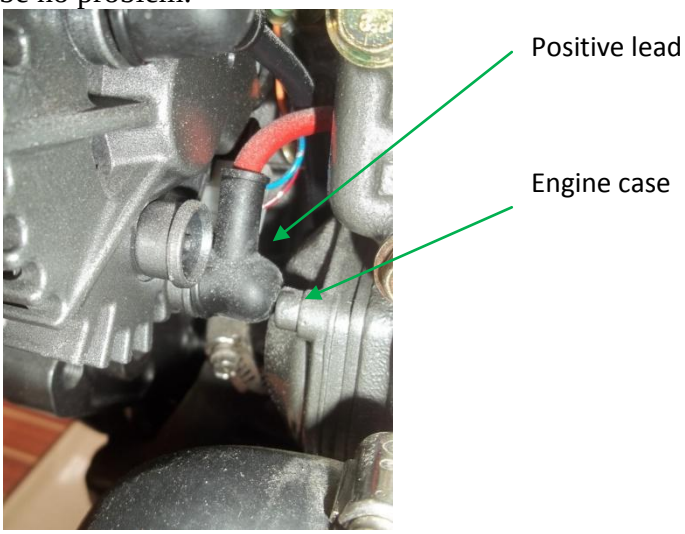
a) The engine is a Yanmar 3YM20 freshwater cooled, three cylinder diesel. Number E4[redacted]. The engine hours did not display. No service records have been seen.
b) The engine is generally very clean as is the bilge. The belts are correctly tensioned, the coolant is at the correct level as is the oil. The oil is black but not thick.
c) The engine is mounted on rubber mounts which are bolted to the FRP engine bearers. The mounts were tested with a crowbar and found secure.
d) The water intake is mentioned above, there is a plastic water filter mounted outside of the engine compartment. There are no visible leaks in the inlet system.
e) There is a very minor oil leak from the back of the engine port sides.

f) The exhaust hose is well clips and goes to a plastic water trap and then in a loop to the deck and out of the hull as described above.

g) There is a small hole in the weld the exhaust elbow. This is leaking water on to the engine below and will get worse if left.


Exhaust leak.

h) The alternator positive wire terminal although rubber covered is very close to the engine block, this is the design and therefore as long as the alternator remains tight there should be no problem.



Recommendation: the exhaust elbow should be removed and replaced or welded.

Advisory notes: clean the back of the engine where the oil leak is to determine where and how serious this might be.

i) The engine started straight away from cold without the use of glow plugs. There was a small amount of smoke emitted from the exhaust pipe but this cleared away. Water was pumped from the exhaust very quickly.

j) When the engine is cold there is a knocking noise, this quietened down when the engine gets hot and I believe is diesel knock which can be caused by fuel quality for the timing being out slightly on the pump. Many diesel engines have this knock.

30. Fuel System:

a) The stainless steel fuel tank is mounted in the aft cabin, the filler is on deck with a marine hose connecting it to the tank. The breather is mounted outside the coach roof. There is a fuel shut off valve in the feed to the engine and heater.
b) The primary filter and water trap with a glass bowl is mounted in the engine compartment.
c) The Fuel hose is all correctly connected and ISO 7840 grade.
d) There are no signs or smells of any diesel leak.

31. Accommodation General:

a) The interior of the vessel was very clean.
b) All lights were checked and worked except for the starboard aft cabin reading light.
c) The shower tray makes a cracking noise when stood on.
d) The shower pump switch operates the opposite way to you would expect. Up is off.

Advisory notes: in order to stop the shower tray noise which is annoying, if there is no access to the underside to inject foam then a hole may need to be drilled from the top and foam injected through this.

32. Gas Installation:

This vessel has been 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	This separate locker room with a drain overboard	
Age and condition of flexible hose at bottle.	The hose is in good condition and does not need changing until 2012	
Age and condition of regulator	The regulator is in good condition	
Connection to copper pipe	Connection is correct	
Condition of copper pipe where accessible	Were seen it is good	
Is pipework adequately supported and not under stress where accessible?	Were seen yes.	
Connections and Flexible pipe to cooker and other appliances	Okay	
Is cooker gimballed?	Yes. Locking bar does not have a fixing handle	Consider new handle
Are all appliances fitted with Flame Failure Devices on all burners, and did these work properly under test?	FFD's work and are fitted.	
Are any appliances requiring flues properly fitted with same?	Not applicable	
Is a gas alarm fitted?	None had seen	
Is each appliance fitted with an isolating tap	Yes in locker below	
If fitted did leak bubble tester function?	No	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) A stainless steel freshwater tank is mounted under the starboard Berth in the saloon. The system is pressurised and there is a calorifier for hot water heated from the engine and from 240 volts.

b) The filler, breather and feed pipes are securely attached with two clips. The pressure pump worked although there was little water in the tank.

c) No leaks were seen in the system but there is water in the bilge.

34. Heads:

a) Toilet is a Jabsco Manual pump seawater type connected directly to a stainless Steel holding tank. This has a gravity outlet and deck pump out with a breather on the top.
b) No corrosion or leaks were noted.

35. Electrical Installation:

DC circuits

a) There are 2x 12 volt heavy duty gel batteries mounted under the port saloon Berth. They are securely held in place. The terminal's do not have plastic or rubber covers on them.
b) The wiring is all professional and appears not to have been changed. There are circuit breakers on all circuits.
c) The batteries are charged by the alternator and a 240 volt battery charger.

240v Circuits

d) A shore power socket on the transom is connected to a 30 MA circuit breaker. There is only one switch below the circuit breaker. I believe this is for the hot water but the Manual will need to be checked. Does this mean the battery charger is on whenever the shore power is on?
e) The battery charger is mounted in front of the batteries and hard wired in.
f) All wiring appears professionally installed.

Advisory note: consider fitting rubber terminal covers to the batteries to prevent accidental shorting out with a spanner or similar.

36. Electronic and Navigation Equipment:

The following was seen aboard operating

a) Radar reflector-hoist up the mast type.
b) VHS- Simrad DSC RD 68
c) Windex
d) Wind's speed and direction-Simrad
e) Speed and depth-Simrad
f) Chart plotter GPS- Furuno
g) Binnacle compass

37. Heating and refrigeration

a) The fridge is a 12 volt electric with an evaporated plate in the ice box. This was seen working.
b) The Webasto hot air heater is fitted and this was seen working.

RECOMMENDATIONS and CONCLUSIONS:

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.***

27. Fire-fighting Equipment

Recommendation: there are no regulations covering private vessels at use in the sea, however I recommend a fire blanket is located at the galley if gas is to be used as per the boat safety scheme for riverboats.

28. Lifesaving and Emergency Equipment:

Recommendation - this vessel be equipped with safety equipment to the level appropriate to proposed use.

29. Engine and Installation:

Recommendation: the exhaust elbow should be removed and replaced or welded.

Conclusions:

See biscuit is a very nice example of the 2007 Hanse 315, she is exceptionally clean all over apart from the sails and covers. There are some small recommendations and some advisory notes that some might say are overly cautious and could be considered betterment.