Marine Surveys UK

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Survey Report no: [redacted]

Name of Vessel: "[redacted]"

Type of Vessel: 2006 Model, Nimbus 280 Coupe, Motorboat, FRP (Fibre Reinforced Plastic) construction, semi displacement hull.

Type of survey: Pre-purchase survey

At the request of:

[redacted]

This survey was carried out on the [redacted] at Yacht Haven Lymington, SO41 3QD on the hard. 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 only. The engine was not run. 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 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 on hard standing at Yacht Haven. The weather was fine and dry. The broker advised that the boat had been ashore since August 2010. 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. Hull below Waterline including keel
3. Topsides above Waterline including Rubbing Strake etc.
4. Deck Moulding.
5. Coach roof and wheel house mouldings
6. Cockpit.
7. Hull/Deck Join.
8. Bulkheads and Structural Stiffening including Internal Mouldings.

Steering, Stern Gear, and Skin Fittings etc.

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

On Deck.

13. Main Companionway and other Accesses to Accommodation.
14. Ports Windows etc.
15. Pulpit, Stanchions, Pushpit, Lifelines and Jackstays.
16. Ground Tackle and Mooring Arrangements.
17. Other Deck Gear and Fittings.
18. Davits and Boarding Ladders.

Safety.

19. Navigation Lights.
20. Bilge Pumping Arrangements.
21. Fire fighting Equipment.
22. Lifesaving and Emergency Equipment.

Engine.

23. Engine and Installation.
24. Fuel System.

Accommodation and onboard Systems.

25. Accommodation General.
26. Gas Installation.
27. Fresh Water Tanks and Delivery.
28. Heads.
29. Electrical Installation.
30. Electronic and Navigation Equipment.
31. Heating & Refrigeration

1. Details of subject vessel:

The vessel is a 2005 Nimbus 280 Coupe, built by Nimbus Production i Visby, Skarphallsgatan 17, 621 41 Visby,Sweden. *Source Conformity document.* The broker, Offshore Power Boats, advised they sold the boat to the current owner from new having been displayed at the 2006 London Boat Show.

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

Length Overall	8.6m
Beam:	2.85m
Draft:	1.0m
Weight	3000KGs
CE Specification	CE057 B, 7 passengers, combined load possible 820KGs

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

B: Offshore.

Designed for offshore where conditions up to, and including, wind force 8 (Beaufort) and wave height of 4 meter (13' ft).

Boat specific information

Registration	None
HIN Number	SE-NIMG2[redacted]F506
Year of Build	June 2005, 2006 Model
MMSI Number	[redacted]

2. Hull below Waterline including keel:

a) Construction of the hull below the waterline is FRP with foam core. It is a deep V with shallow keel section, a double chine (the hard angle where topsides meet hull below water) and a spray rail forward moulded in to the hull. It is blue gel coat coated in 2 layers of epoxy and primer plus white antifouling.

b) The vessel was supported in a cradle when examined ashore. There are no signs of distortion in the hull.

c) 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.

d) The antifouling was removed in 28 patches approximately 50mm x 50mm at random around the hull below the water line. In some areas the epoxy coating came away with the antifouling, in others, just the antifouling came away. While scraping I was looking for evidence of wicking or blistering and once removed all patches were checked with 10x magnification.

e) Particular attention was taken to the chine and spray rails which were scraped randomly and checked with 10 x magnification for cracks.

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:	**21.5°C**
Relative Humidity:	**41%**
Time ashore	**10 Months**
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	**11 – 16 (readings above 12 were taken through epoxy coating)**	**10 – 11**
Deep Mode	**11 – 18 (readings above 12 were taken through epoxy coating)**	**8 – 9**

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 and Epoxy coatings tend to have higher reading than pure gelcoat.

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

g) No significant damage or repairs were noted.

3. Topsides above Waterline including Rubbing Strake:

a) Construction of the hull above the waterline is also FRP with foam core. Top side moulding found generally fair (no signs of distortion). Some bulkhead hard spots can be seen and also the core mat pattern through the blue gel coat. This is common on the Nimbus and found from new.
b) The topsides were lightly hammer sounded and no indication of voids found. Moisture readings were taken and recorded as above.
c) There are some minor scratches and scuff marks but no signs of major damage or repair.

4. Deck moulding:

a) Construction of the deck is FRP with foam core. Finished in white gel coat with non slip pattern moulded in.
b) The whole deck was carefully tested underfoot for signs of delaminating or other structural defects.
c) The deck was tested with moisture meter and readings were as per the topsides.
d) No significant faults found.

5. Coachroof and wheel house mouldings:

a) Constructed as part of the same moulding as the deck and finished in the same way.
e) The whole area was carefully tested underfoot for signs of delaminating or other structural defects.
f) The wheelhouse roof is a separate moulding.
b) Hand rails were tested with a lever and found secure.
c) No significant faults found.

6.Cockpit:

a) Constructed as part of the same moulding as the deck and finished in the same way.
b) Drainage is via a large drain in the port aft corner and two more drains in the gulley under the stowage access hatches in the cockpit sole. The through hull fittings are bronze and the valves are ball valves. Reported below.
c) The cockpit sole has two access hatches, well hinged and sitting above a well drained gulley. The hatch covers have teak faced plywood stuck to them.
d) A sill at the aft end below the transom gate is intended to keep the cockpit dry from following seas. The gate is well hinged and locks in place with a barrel bolt.
e) A solid FRP bathing platform is bolted to the transom, with two hatch covers in teak, well hinged and no signs of damage.

7. Hull/Deck Join:

a) This is a mechanical joint. The hull and deck each have external flanges, filled with bonding paste and screwed together with stainless steel screws. The flange is covered with a rubber fendering.
b) The joint could only be viewed in the aft lockers and starboard mid locker in heads.
c) There are no signs of leaks at the joint and no signs of damage externally.

8. 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 hull and deck are robust in the first place. An FRP inner moulding is bonded to the hull in places to form longitudinal and transverse stiffening boxes. (Floors and stringers)
b) There is a further moulding, bonded to the hull forming the furniture bases and creating box section strength.
c) All possible access was checked, lockers, under berths and the floors and inner mouldings for signs of delamination and cracks.
d) No signs of debonding or cracks noted.

9. Rudder and Steering:

a) The rudder is of FRP moulded around a stainless steel stock. It is an unbalanced rudder, pivoting at the forward edge. The lower edge is supported on a bronze skeg bolted to the hull. The bronze rudder tube is mechanically fixed to the hull and extends above the waterline. The rudder stock is has a stainless steel arm attached via a pinch bolt and attached to the Hydraulic steering ram. This has two hydraulic hoses connected to the wheel. Access to the aft side of the wheel and the pump was restricted by head lining.
b) The rudder was leant on with full body weight in either direction and did not give or any split open up. The rudder was scraped and moisture readings were acceptable.
c) All connecting bolts and fixings were examined and no faults found.
d) There is an electric bow thruster fitted, which operated. The propeller was checked and no faults found.
e) Two hydraulic trim tabs of stainless steel are bolted to the transom and operated fully up and down. The fixings bolts were checked and found secure.

10. Stern Gear:

a) The Propeller is a 4 blade bronze attached to stainless steel propeller shaft with bronze nut and tab washer to secure. There is a rope cutter fitted. The shaft enters the hull through the external end of the bronze stern tube with bearing holder containing a rubber cutlass bearing. This is bolted to the hull with two stainless steel coach bolts. The stern tube is laminated in board and has a rubber water lubricated stern gland attached with stainless steel clamps. The shaft connects to the reverse gear box by a flexible coupling.
b) The propeller was scraped and no signs of dezincification noted. There is no play in the outboard bearing. The outboard bearing holder water feed holes are blocked with fouling.
c) The shaft was free to turn and no signs of distortion noted.
d) At the inboard end of the stern tube, the bronze stern tube has signs of dezincification and there are signs of water under the gland. The tube was scraped to shiny metal just below. There appears to be some Sikaflex or bonding paste applied around the tube.

Advisory Note: The broker advised that the stern tube condition is normal on the Nimbus, the gland has to be squeezed to expel air when the boat is launched and the water is never mopped up. I noted that the sterntube is not connected to the hull anode, again the broker advised this is normal. I advise when the boat is launched, once the gland has been squeezed, mop up any water and monitor if any water enters via the outside of the tube. If not, keep this area dry.

Stern tube inboard end

11. Cathodic Protection:

a) All anodes have been replaced. There is a hull anode, an anode on the bow thruster and an anode on each trim tab.
b) The Hull anode were tested for continuity to the propeller, shaft, bearing holder and skeg. The skeg and bearing holder are not protected by it but do not show external signs of dezincification.

12. 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) Cockpit drain port, access from cockpit sole locker – Bronze skin fitting, silver coloured, possibly DZR ball valve. Slight external corrosion on valve. Cleaned away shiny.
b) Cockpit drain starboard, access from cockpit sole locker - Bronze skin fitting, silver coloured, possibly DZR ball valve. Slight external corrosion on valve. Cleaned away shiny.
c) Engine seawater intake, access from cockpit sole locker – Bronze skin fitting with strainer fitted, silver coloured, possibly DZR ball valve. Slight external corrosion on valve. Cleaned away shiny.

d) Toilet seawater inlet, access from locker in heads - Bronze skin fitting with strainer fitted, silver coloured, possibly DZR ball valve. Slight external corrosion on valve and skin fitting. Cleaned away shiny.
e) Holding tank outlet, access from locker in heads - Bronze skin fitting with strainer fitted, silver coloured, possibly DZR ball valve. Slight external corrosion on valve and skin fitting. Cleaned away shiny.
f) Log – access aft of engine compartment, plastic skin fitting,
g) Depth sounder– access aft of engine compartment, plastic skin fitting,

Above waterline

h) Heads sink outlet, starboard side, access from locker in heads - Chrome bronze skin fitting.
i) Manual amidships bilge pump, shower drain and electric bilge pump, starboard side, access from locker in heads - all outlet same chrome bronze skin fitting.
j) 3 breathers – water tank, fuel tank, holding tank, starboard side, access from locker in heads – 3 chrome bronze skin fittings, pipes all correctly in swan neck loops.
k) Galley sink, port side, access from cockpit sole locker, chrome bronze skin fitting.
l) Battery breather, port side, access from cockpit sole locker, chrome bronze skin fitting pipe correctly in swan neck loops.
m) Aft manual bilge pump port side, access from cockpit sole locker, chrome bronze skin fitting pipe correctly in swan neck loops.
n) Exhaust, starboard transom, access from cockpit sole locker, stainless steel skin fitting pipe correctly in swan neck loops.
o) Gas locker drain, starboard transom, access from cockpit sole locker, bronze skin fitting.

13. 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) Main access into deckhouse saloon through aluminium framed sliding door with security glass, secure in runners and can lock open or closed.
b) Fore cabin has plastic framed hatch 500x 500 large enough to be used as secondary means of exit, hinged forward with 2 catches. There is a vent fitted in the *Plexiglass.*
c) Wheelhouse has two large sliding hatches above. Both secure, no signs of leaks.

14. Ports, Windows etc.:

The same checks as section 13 above were carried out. All found ok unless noted. The ports and windows were not hose tested for leaks.

a) Forecabin has two fixed portlights of glass in alloy frames below weather deck.
b) Heads and side cabin have Lewmar *Plexiglass* opening portlights above weather deck.
c) Wheel house windows are security glass in aluminium frames. Each side is an opening hatch. Rubbers all appear good. No signs of leaks noted.

15. 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) Pulpit and side rails are combined in single stainless steel tube with stainless steel uprights. These are bolted through the decks, can be viewed internally.
b) Cockpit has low stainless steel handrails.
c) No life line attachment points noted, no jackstays fitted.

16. Ground Tackle and Mooring Arrangements:

a) Main Anchor is 7.5KG Bruce type anchor, chrome finished attached to 10mm chain, this was not laid out and examined link by link but checked in anchor locker. This is attached to 14mm warp. Bitter end fixing not seen (where rope ties off). Shackle from anchor to chain secure.
b) Anchor sits in stainless steel stem head fitting, securely fitted to deck.
c) Lewmar pillar windlass is fitted, operating from deck and helm position correctly. The windlass is bolted to a stainless steel bracket securely fitted in the anchor locker.
d) A Sampson post is bolted to the fore deck in addition to stainless steel cleats around the boat.

Advisory note: The anchoring equipment is suitable only for maximum 3 miles from land, in favourable weather and daylight. For overnight passages up to 20 miles from a safe haven the vessel should have second anchor of 4KG, with 10m x 6mm chain and 22m x 10mm warp. *Source MCA MGN280.*

17. Other Deck Gear and Fittings:

a) The windscreen wipers operated although the washers had no water. Starboard washer pipe at wiper is missing.
b) The cockpit canopy has some teeth missing from the main zip and the plastic screen has come away with broken stitching.
c) The radar mast is securely fitted to the wheel house roof.
d) Fender holders are securely attached to transom.

Advisory note: Attach washer hose to starboard fitting.

18. Davits and Boarding Ladders:

a) Vessel has permanently attached stainless steel boarding ladder which extends below the waterline and is securely attached. It has 3 steps. Minor corrosion on stainless but will polish up.

19. Navigation Lights:

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

a) All around white on radar tower – did not light
b) Port and starboard on coach roof – port did not light
c) Compass light – did not light.

Recommendation:- Vessel should not be used at night or in poor visibility without the all around white, port light and compass light working.

20. Bilge Pumping Arrangements:

a) A manual Johnson bilge pump operated from saloon area. It has a two way valve to allow suction from engine or main bilge. Clips secure. Strum boxes fitted. (Non return valves and strainer).
b) Second manual Johnson bilge pump located in cockpit and suction from aft bilge around rudder tube. Clips secure.
c) Electric bilge pump, operated in manual. No bilge alarm heard. Auto operation not tested. Float switch difficult to access.

21. Fire-fighting Equipment:

The following was noted aboard

a) 2 KG 13A 89BC powder extinguisher at helm position. Green showing on gauge. No date noted.
b) Seafire ISO8846 Automatic fire extinguisher in engine compartment, with Fireboy operating system. Indicator at helm position. No service marked. Green on Gauge.
c) Orific in engine cover to put external fire extinguisher through.
d) No fireblanket seen.

Recommendation:- Fire extinguishers should be serviced or replaced every 5 years. These are now due. A Fire blanket should be fitted at the galley.

22. Lifesaving and Emergency Equipment:

The following was noted aboard

a) Nothing.

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.

23. Engine and Installation:

a) The boat is fitted with a single Volvo Penta Diesel engine type D3-160. Engine number 2003003807. Broker advises hours to be 170 hours
b) I did not have keys for the engine system so could not check gauges or hours. The engine has been laid up with belts removed, exhausts removed and blocked, water drained, vulnerable parts greased.
c) The engine compartment is generally clean, as is the engine. There were no signs of water, oil or diesel leaks.
d) The engine service book was aboard and showed regular servicing, the last being 16/7/2009 at 144 hours.
e) The engine is mounted on rubber mounts, these were tested with a crow bar and found secure.
f) The Morse control (forward and astern and speed) operated smoothly
g) There is some minor corrosion around the aft end of the engine and coupling.

Advisory note: The purchaser has advised the engines will be serviced when commissioned. Suggest request corrosion is removed and parts painted to prevent further.

24. Fuel System:

a) There is a stainless steel diesel tank mounted amidships, the tank is well secured in place. The deck filler has a grounding wire leading to the tank. The filler is secure on deck.
b) The engine fuel supply and return both have valves at the tank as does the diesel feed for the hot air blower.

c) All hoses are securely clipped and are ISO 7840 marine fuel hose. There is a metal Volvo Penta water separator mounted outside the engine compartment.
d) There are no signs or indications of diesel leaks noted.

25. Accommodation General:

a) The vessel smells dry, there is adequate ventilation.
b) The cushions are a bit faded in the saloon area.
c) One hatch support is broken – aft underseat locker in saloon.
d) The shelf in the port cabin has a screw securing it that is loose and needs tightening.

26. Gas Installation:

As far as I can tell, 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	Sealed locker with drain overboard. Bottle has been mounted in plastic bin in addition.	
Age and condition of flexible hose at bottle.	No date, does not perish when bent.	***Gas hoses should be replaced every 5 years and this boat is that age now.***
Age and condition of regulator	No signs corrosion operates well.	
Connection to copper pipe	Correct gland	
Condition of copper pipe where accessible	Good where seen in cockpit sole locker.	
Is pipework adequately supported and not under stress where accessible?	Yes where seen in cockpit sole locker.	

Connections and Flexible pipe to cooker and other appliances	Correct	
Is cooker gimballed?	no	
Are all appliances fitted with flame failure devices on all burners, and did these work properly under test?	Yes, tested and heard working. 2 burner and oven.	
Is a gas alarm fitted?	No	Consider fitting gas alarm
Is each appliance fitted with an isolating tap	Yes, in locker below cooker.	
If fitted did leak bubble tester function?	Not fitted	Consider fitting bubble leak 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

27. Fresh Water Tanks and Delivery.

a) Plastic water tank fitted starboard side, top accessible in saloon.
b) Pressure pump in aft locker under cockpit sole. Connections to pump have been removed.
c) 240V and engine heated calorifier mounted in aft locker under cockpit sole. No signs of corrosion.
d) Taps could not be checked operating. Aft shower head removed.

Advisory Note: Water pump should be reconnected and system pressure tested.

28. Heads:

a) Toilet is Jabsco Manual operated Seawater flush. Inlet pipe goes direct to toilet, no swan neck. Toile toutlet connects direct to plastic holding tank. This has a vent overboard. The outlet connects to pump out pump and the hose from here is to sea direct or to deck pump out. Slight leak at base of pump.


Minor leak at holding tank pump.

29. Electrical Installation:

DC circuits

a) 3 Domestic and 1 engine batteries, located in FRP sealed box under cockpit sole. Terminals all tight and vent overboard. Bolted in place.
b) Isolator switch for engine battery and auxiliary circuits.
c) All wiring well clipped and factor original.
d) Circuit breakers / electronic fuses for all circuits.
e) Electronic isolator as well as manual above.

240v Circuits

e) Socket for shore power in cockpit, RCCB and 3 MCB breakers for water heater, battery charger and sockets in under seat locker in saloon
f) Hi-Tec Battery charger mounted in aft locker under cockpit sole.

30. Electronic and Navigation Equipment:

The following was seen aboard operating as much as possible based on situation

a) Binnacle compass – light not working noted above.
b) Simrad CP31 chart plotter and GPS
c) VHF Simrad RS82 with DSC
d) Autohelm Bidata speed and depth
e) Brass barometer
f) Horns – not working
g) No search lights fitted but switch mounted.
h) Anchoring cone

Recommendation: Fix horns so vessel has means to communicate sound signals

31. Heating and refrigeration

a) Isotherm front loading refridgerator, seen working – Note interior light not working.
b) Eberspacher Diesel hot air blower. Operated. Well mounted in locker under cockpit sole.

RECOMMENDATIONS and CONCLUSIONS:

Maintenance Overview:
Cosmetic maintenance: Clean and tidy, a few marks around the hull
Technical Maintenance: very few hours and regularly serviced

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.***

19. Navigation Lights:
Recommendation:- Vessel should not be used at night or in poor visibility without the all around white, port light and compass light working.

21. Fire-fighting Equipment:
Recommendation:- Fire extinguishers should be serviced or replaced every 5 years. These are now due. A Fire blanket should be fitted at the galley.

22. Lifesaving and Emergency Equipment:
Recommendation - this vessel be equipped with safety equipment to the level appropriate to proposed use.

26. Gas Installation:
Gas hoses should be replaced every 5 years and this boat is that age now.

30. Electronic and Navigation Equipment:
Recommendation: Fix horns so vessel has means to communicate sound signals

Conclusions:
Trinculo is in very good condition for her age, the faults are due to being laid up and are probably dirty / corroded connections and the other recommendations are age related or area of operation rated. A good example with no signs of impending corrosion.