



Barcelona Yacht & Marine Surveys

Full Condition Survey

FRP sloop

"Whisper"



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Condition Report

Factors limiting survey

This report has been prepared for Jens Hellerman on the 24th March 2021 and is for his use only. Copies in whole or in part should not be released to, or consulted by, other parties without the express prior permission of David Dabney. Whilst all due care and diligence has been exercised in the collection of data for and the preparation of this report, David Dabney purports to provide an advisory service only based on his opinion and experience. David Dabney issues such advice in good faith and without prejudice nor guarantee. Anyone wishing to rely on such opinion should first satisfy himself as to its accuracy and feasibility. David Dabney shall not be liable for any loss (including indirect and consequential loss), damage, delay, loss of market, costs, expenses of whatsoever nature or kind and however sustained or occasioned. Notwithstanding the aforementioned, notice of a claim or suit must be made to David Dabney in writing within 90 days of the date these services were first commissioned. Lack of notice shall constitute an absolute bar to the claim or suit against David Dabney.

This survey is a factual report on the inspection carried out, and the opinions expressed are given in good faith as to the condition of the vessel as seen at the time of survey. It implies no guarantee, no safeguard against latent defects, subsequent defects, or defects not discovered at the time of survey in woodwork or areas of the vessel which are covered, unexposed, or not accessible to the surveyor internally due to the installation of non-removable linings, panels and internal structures etc., or agreement and permission and instructions not being given to the surveyor to gain access to closed off areas.

Copyright remains with the surveyor.

This report carries no warranty regarding ownership of the vessel or any warranty regarding outstanding mortgage, charge or other debt there may be on the vessel.

This report does not address stability, vessel performance or overall design, and no warranty is conveyed under these heads.

Where masts and rigging are standing at the time of survey only those parts up to head height have been examined in detail, unless specifically stated otherwise.

The machinery has been inspected visually; no dismantling or operating of the engines has been undertaken, unless specifically stated otherwise. An independent mechanical test of all machinery and related systems is always recommended.

The electrical, plumbing, gas and other services have been inspected where visible but have not been operated, unless specifically stated otherwise.

All tanks are inspected where visible but not internally and they have not been pressure tested. Their contents have not been tested for contamination.

Windows, hatches and external doors have not been tested for water tightness.

Skin fittings and valves have not been dismantled.

No dismantling of the vessel was carried out apart from the removal of portable hatches.

The inspection does not include an assessment or guarantee of compliance with the requirements of any particular authority, unless specifically requested.

David Dabney strongly recommends that all equipment installed on the vessel, electrical equipment, machinery and ancillary equipment for the machinery is functioning to your complete satisfaction prior to purchase.

Report writer

This report has been compiled by David Dabney, an accredited member of the Yacht Designers & Surveyors Association and the Society of Accredited Marine Surveyors.

Instructions

This is to certify that I, David Dabney, acting on instructions received from Mr Jens Hellerman, visited Empuriabrava, Spain, on the 17th and 23rd March 2021 to survey *Whisper* and report on her condition. This report of 25 pages is personal and confidential to my client and has no extended warranty if disposed to a third party for any purpose.

Persons present during the inspection

Surveyor David Dabney

Purpose of survey

This Full Condition Survey report for owner's personal use.

Explanation of recommendations

Category A

Recommendations require immediate attention.

Category B

Recommendations should be implemented before putting to sea.

Category C

Recommendations should be implemented within one year of the survey or at the next haul out.

Category D

Recommendations should be implemented within the stated timescales.

Category E

Recommendations of an advisory nature that carry no timescale.

Category F

Recommendations that must be implemented before setting sails.

Details of vessel

Vessel's name:	<i>Whisper</i>
Type:	Hallberg Rassy 49
Description:	FRP sloop with white and blue topsides and superstructure. The name <i>Whisper</i> is attached to the transom.
Builder:	Hallberg Rassy
Designer:	Olle Enderlein & Chrostoph Rassy
Hull Material:	FRP
Registration No:	0700
Port:	Basel
Flag:	Switzerland
Year of build:	1989
L.o.a:	14.96m
Beam:	4.42m
Information source:	These vessel particulars were recorded as disclosed to me by the broker, owner or client, have not been checked by me and no guarantee of accuracy can be given.

Scope of the survey

Whisper was inspected ashore and float. All ports and lockers were opened but fixed panels were not removed. A sea trial was conducted.

Weather conditions during the survey

Throughout the surveys the weather was warm and dry with a light breeze from the North West.

Hull construction

The FRP hull has been created in a female mould with a white gelcoat finish. The hull is strengthened by cored frames and stringers. Plywood bulkheads also add stiffness to the hull moulding.

Hull external & attachments

Props & supports

Whilst ashore *Whisper* was sat down on her keel. Support was provided by five adjustable steel props.

The forward props have been correctly positioned. The aft props have been poorly positioned beneath unsupported parts of the hull. Pressure from the props has pressed the hull inwards above the prop pads and lifted the sole boards by the entrance to the aft cabin. I am unable to say if the pressure from the props has fractured the hull laminate.

One would expect to see at least eight props positioned below the waterline when the vessel is placed on hard standing.

Recommendations:

1. *Category E. At least eight props should be used when Whisper is placed on hard standing. All the props must be positioned beneath strengthened areas of the hull such as bulkheads.*

Topsides

The topsides have been painted white with blue stripes to a good standard. Apart from some small scratches, the paintwork is in good condition with no major damage or repairs found.

A stainless steel band is screwed to the FRP rubbing strake. The band is securely attached and in good condition with no abrasion marks or signs of impact found.

External hull below the waterline

Below the waterline the hull is fair and in good condition with no signs of osmosis blistering, damage or repair found. Some small air inclusions are trapped beneath the antifouling.

An epoxy moisture barrier has been applied to the underwater gelcoat. To avoid unnecessary damage to the moisture barrier the antifouling and epoxy were not removed to inspect the underlying gelcoat.

The underwater sections were tap tested at close intervals. No indication of voids or separation of the laminates was found by this method.

Underwater coatings

Epoxy primers and antifouling have been applied directly to the underwater gelcoat. The coatings are fair and well adhered to the underwater sections.

Moisture readings

To take accurate moisture readings the sensor of the capacitance meter has to be placed directly on the gelcoat or hull laminate. This would involve removing patches of the epoxy coatings and breaching the moisture barrier. For this reason, moisture readings were not taken.

Keel

Ballast is encapsulated in the hollow keel which is formed as part of the hull moulding. The keel and the hull around the keel are in good condition with no signs of compression or the damages associated with a heavy grounding.

Within the vessel the top of the keel is concealed beneath a water tank.

Rudder

Whisper is fitted with a hollow or foam filled FRP rudder hung on a skeg. The rudder is constructed in two mouldings bonded to a stainless steel stock.

The rudder blade is covered in blisters that are filled with acidic fluid. The FRP laminate of the rudder has the condition known as osmosis.

I was unable to inspect the bronze rudder hangings as they are covered in fairing material.

Within the vessel the rudder seal is dry.

Recommendations:

- 1. Category D. To be carried out within two years. Strip the gelcoat from the rudder blade. Allow the laminate to dry until relative moisture readings of below 10 are recorded right across the rudder blade. Once dry, the rudder can be faired and an epoxy moisture barrier and antifouling can be applied closely following the instructions of the chosen paint manufacturer.*

Hull internal

Layout

A forward cabin with a double berth. Further aft there is a twin berth cabin to starboard and a washroom with toilet to port. Aft of the main bulkhead is the saloon that has a dining area to starboard and seating to port. Aft of the saloon the galley is located to starboard. The navigation station and entrance to the aft cabin are located to port. The aft cabin has a double berth and en suite washroom with toilet. Steps lead from the saloon to the centre cockpit. A diesel engine is located beneath the cockpit.

Internal hull surfaces

The parts of the internal hull that I was able to access have been neatly laminated to a good standard with all glass reinforcement fully consolidated. I found no evidence of repairs on the internal hull surfaces. Some new laminate has been applied below the waterline where through-hull fittings have been removed.

Bilges

The bilges and the bilge sump are clean and dry.

Bulkheads & bonding

Plywood bulkheads have been attached to the hull with a substantial thickness of FRP tabbing.

I could not find any evidence to suggest that the bulkheads have moved or any delamination between the FRP tabbing and the bulkheads.

The bulkheads themselves are in good condition with no signs of damage from water ingress found.

Structural floors

Plywood structural floors sheathed in FRP are fitted throughout the vessel. All the structural floors I was able to inspect are in good condition with no signs of movement or stress found on the structural floors themselves or on the hull laminate adjacent to the structural floors.

Galley

The following equipment was found in the galley:

- ENO two burner stainless steel stove with oven.
- Sharp microwave oven.
- Double stainless steel sink with hot and cold outlets.
- Various cupboards and lockers.

The galley area and all the associated equipment is clean and in good condition.

Interior joinery

Whisper's interior joinery has been finished in teak faced plywood and solid teak to the high standard expected of the Hallberg Rassy shipyard. The interior joinery is in very good condition with no defects found.

Furnishings & linings

The furnishings throughout *Whisper* have been finished in a hardwearing blue fabric that is in good condition with no rips, tears or heavy staining found.

The linings are clean and firmly attached to the deck head and sides of the hull.

Apertures & ventilation

Windows, ports & hatches

Opening hatches are installed over the accommodation. Fixed and opening ports are set into the topsides and superstructure. A fixed windscreen in an aluminium frame surrounds the forward part of the cockpit. The companionway is closed by a single plywood washboard and a sliding teak hatch.

All the windows, ports and hatches I inspected are in good condition and closing correctly.

Ventilation & heating

The following vents were found on the vessel:

- Five dorade vents are dispersed above the accommodation.
- A UFO type vent is fitted in each of the aft deck hatches.
- An electric extractor is fitted in the engine space.

Adequate ventilation is installed, and all is visually in good condition.

A Webasto diesel fuelled cabin heater is located above the main engine. The cabin heater appears to have been correctly installed although the main supply ducting is severely crushed where it exits the engine space.

Recommendations:

1. Category A. Replace the crushed length of ducting on the Webasto cabin heater.

Through-hull fittings located below the waterline

Port side:

Through-hull material	Application	Type of valve	Handle	Double clipped	Comments
Bronze	Toilet discharge	Bronze ball valve	Loose	Yes	
Bronze	Sink outlet	Bronze ball valve	Good	Yes	
Bronze	Generator cooling inlet	Bronze ball valve	Good	Yes	
Bronze	Engine cooling inlet	Bronze ball valve	Good	Yes	
Bronze	Unknown	Bronze ball valve	Good	Yes	
Bronze	Cockpit drain	Bronze ball valve	Good	Yes	
Bronze	Generator exhaust outlet	Bronze ball valve	Good	Yes	

Starboard side:

Through-hull material	Application	Type of valve	Handle	Double clipped	Comments
Plastic	Echo and log transducer	N/A	N/A	N/A	Dry within the vessel
Bronze	Toilet inlet	Bronze ball valve	Good	Yes	
Bronze	Air conditioning inlet	Bronze ball valve	Good	No	
Bronze	Galley sink discharge	Bronze ball valve	Good	Yes	
Bronze	Cockpit drain	Bronze ball valve	Good	Yes	
Bronze	Toilet discharge	Bronze ball valve	Good	Yes	
Bronze	Toilet inlet	Bronze ball valve	Good	Yes	
Bronze	Sink discharge	Bronze ball valve	Good	Yes	
Bronze	Washing machine outlet	Bronze ball valve	Good	Yes	

Many of the vessel's sea valves are seized solid or stiff to operate. The hose connections on the cooling water supply to the air conditioning pump are single clipped and leaking by the pump.

Green garden hose, which is not suitable for use below the waterline has been used for the supply to the galley foot pump.

The forward toilet discharge is leaking where it joins the through-hull fitting. The red discharge hoses are original and due for replacement.

Note

- *In the above table the report writer has attempted to locate and identify the purpose of sea valves and through-hull fittings below the waterline. The location and application of each sea valve and through hull fitting must be verified by the master of the vessel before putting to sea.*

Recommendations:

1. *Category A. All stiff or seized sea valves must be freed off or replaced. Correctly attach the handles to the sea valves.*
2. *Category A. Ensure that all tube terminals that run to through-hull fittings positioned below the waterline are secured with two clips manufactured in 316 stainless steel.*
3. *Category A. Replace the red coloured discharge hoses that are connected to through-hull fittings and stop all the leaks on hose connections located below the waterline.*
4. *Category A. The hose for the supply to the galley foot pump must be reinforced.*
5. *Category A. Access to all sea valves should be practised so that they can be closed quickly in an emergency.*

Spars, rigging & sails

Masts & spars

The aluminium alloy mast, boom, rod kicker and spinnaker pole are supplied by Selden. All the parts of the double spreader mast and spars I was able to inspect from the deck are in good condition with no excessive corrosion, loose attachments or other defects found. The paint coatings on the mast and boom are in a poor condition and would benefit from renewal.

The hydraulic connections and seal on the rod kicker are tight with no evidence of fluid leakage found.

Mast step & support structure

The mast is deck stepped in an aluminium alloy step that is bolted through the cabin top.

Internally a teak compression post transfers the downward forces of the rig directly to the hull above the forward part of the keel

I could find no evidence of collapse or movement of the mast compression structure either on deck or within the vessel.

Chainplates

The forestay is attached to a stainless steel plate bolted through the stem. The backstay is attached to a stainless steel plate bolted through the transom. The stay chainplates are secure with no signs of movement or water ingress through the attachments found.

The shrouds terminate at three points on each side deck. Within the vessel the shroud chainplates are bolted through plywood webs that are bonded to the hull as part of the primary laminate.

Although access to some parts of the chainplates is limited, the components I was able to inspect are secure with no signs of movement or other defects found

Standing rigging

One by nineteen stainless steel wire with swaged terminals and open rigging screws has been used for the standing rigging.

The lower shroud terminals are covered in aluminium protectors that I was unable to remove.

The lower terminals of the cap shrouds and backstay are exposed and visually in good condition.

After a thorough inspection I was unable to find any defects with the standing rigging when viewed from the deck

After ten years in service the vessel's standing rigging must be inspected each year by a qualified rigger and condition report produced.

Recommendations:

1. *Category F. If the standing rigging is more than 10 years old, a full rig inspection backed up with a written report must be carried out every year.*

Running rigging & winches

The following winches were found on the vessel:

- Two Andersen 68ST electric primary sheet winches. Tested and working.
- Two Lewmar 52 winches.
- Two Lewmar 43ST winches on the mast.
- One Lewmar 46ST winch on the mast.
- One Andersen 46ST winch.
- Two Lewmar 43ST mainsheet winches.

Some of the winches are stiff to operate and in need of servicing. The deck gear is all visually in good condition but was not put under load.

Although the running rigging was not removed for inspection many lengths are covered in a thick layer of green mould. Some sections of the running rigging are severely chaffed and must be replaced.

Recommendations:

- 1. Category F. Service all the stiff winches and deck gear.*
- 2. Category F. Remove, wash and inspect all the halyards and running rigging. Any chaffed or damaged lengths must be replaced.*

Sails

The mainsail is manufactured in a reinforced Dacron by Elvstrom. The sail which is cut for use with in mast furling is visually in good condition with no damages or areas of repair found.

The genoa was not presented for inspection.

Deck area & deck equipment

Decks & hull to deck joint

The decks are manufactured in cored FRP finished with decorative teak planking. The teak planks are completely worn away in some places exposing the FRP sub-deck. Some of the teak planks have separated from the sub-deck.

Whisper's teak planking is beyond repair and is due for complete replacement.

The deck to hull joint is covered by a teak capping rail. The capping rail and the joint are in good condition with no opening or signs of water ingress found within the vessel.

Recommendations:

1. *Category D. To be carried out within three years. Replace the teak planking on the decks.*

Cockpit & superstructure

The cockpit and superstructure are formed as part of the FRP deck moulding. The FRP surfaces are in good condition with no damage or evidence of repair found. The gelcoat is dull and would benefit from mechanical polishing.

Decorative teak planking has been glued to the cockpit benches. The teak is heavily worn and due for replacement. The teak grill in the cockpit sole is in good condition and fit for service.

Adequate water clearing facilities are provided by large diameter drains located in the cockpit sole.

Recommendations:

1. *Category D. To be carried out within three years. Replace the teak planking on the cockpit benches.*

Stanchions, lifelines & guardrails

Stainless steel stanchions are placed over spigots that bolted through the capping rail. A stainless steel pulpit and pushpit are provided.

The stanchions, their bases, the pulpit and the pushpit are all in good condition and securely attached to the vessel.

Two plastic coated 1 by 19 stainless steel wire lifelines are provided to both port and starboard. The lifelines are visually in good condition although split rings have been used to secure the clevis pins. Split rings are not suitable for this application as they can be opened by frapping sheets. The rings must be replaced with split pins taped over.

Recommendations:

1. *Category B. Replace all the split rings used to secure lifelines with stainless steel split pins taped over.*

Mooring arrangements

The following mooring arrangements were found on the vessel:

- Two aluminium alloy cleats on the foredeck.
- One aluminium alloy cleat amidships to both port and starboard.
- One aluminium alloy cleat on each quarter.

All the mooring arrangements are in good condition and are securely attached to the vessel.

Davits

Manually operated davits are attached to the transom. The davits are securely attached with no signs of movement or stress cracking found in the gelcoat adjacent to the mounting plates.

The davits are in good condition with no distortion of the arms or weld defects found.

The timber wedges that are located between the vessel's transom and the davit mounting plates are split and in need of attention.

Recommendations:

- 1. Category C. Mask off the sides and lower section of the timber wedges located at the davit mounting points. Fill the cracks in the timber wedges with liquid epoxy resin.*

Canvas work

A spray hood with clear plastic panels is fitted over the fixed windscreen. The spray hood is correctly attached and in good condition with no defects found.

A cockpit sun awning with a stainless steel framework is included in the ships inventory. The sun awning was not installed for inspection.

Machinery

Engine

A Volvo Penta TMD 41 six cylinder turbo charged diesel engine is located beneath the cockpit. The engine is attached to flexible mountings that are bolted to substantial engine bearers. I could find no movement of the engine on its mountings or signs of stress on the engine bearers adjacent to the engine mountings.

The engine is clean and visually in good condition. Oil was found on the top of the engine where the injectors enter the cylinder heads.

The engine oil and coolant are clean and filled to the correct levels. The belts are correctly tensioned.

No service history was shown to me.

During the sea trial the engine started well from cold with no excessive emissions noticed. The vessel was manoeuvred from her berth and out to sea using both forward and reverse gears. Once the engine was at operating temperature the throttle was fully opened and the following readings recorded.

Engine revolutions	2800
Oil pressure	4 bar
Coolant temperature	80 C

A full load test was conducted with the throttle opened fully from a standing start. No excessive emissions were noticed during this test.

Throughout the sea trail the engine ran well with no defects found.

- 1. Category E. Ensure that the engine has been serviced following the manufacturer's instructions.*

Generator

A Westerbeke diesel fuelled generator is installed to starboard of the main engine. The generator is clean and visually in good condition. The generator's aft engine mountings are broken.

The exhaust box has come away from its attachment point. The section of exhaust hose in the aft deck locker is perished and due for replacement.

The generator started well and ran well with no excessive emissions noticed. The generator produced 220 V AC.

Recommendations:

- 1. Category A. Replace the generator's flexible mountings, correctly attach the exhaust box and replace the section of flexible exhaust hose in the aft deck locker.*
- 2. Category E. Ensure that the generator has been serviced following the manufacturer's instructions.*

Morse controls

Single lever morse controls are fitted in the cockpit. The lever and control box are visually in good condition. The lever is moving freely. The cables have been neatly run with no chaffing found.

Stern gear

A mechanical gearbox is bolted to the engine. The oil in the gearbox was not checked. A stainless steel shaft is coupled to the gearbox flange.

The shaft passes through a Volvo Penta lip seal that is lubricated and visually in good condition with no signs of water ingress found.

The shaft was rotated by hand. No misalignment between the engine and stern gear was found by this method.

Outboard the shaft is supported by a bronze and rubber cutlass bearing pressed into the shaft log. The bearing is in good condition with no excessive slack found.

A three bladed bronze feathering propeller is correctly attached to the end of the shaft. The propeller is in good condition with no tip damage, deep pitting or dezincification found.

All the components of the vessel's stern gear are in good condition with no defects found.

Diesel storage & supply

Diesel fuel is stored in a tank that is situated in the aft part of the keel. No shut off valves are provided on the diesel supply or return.

Fuel is supplied and returned in a mixture of copper and flexible tubing. The flexible fuel lines have hardened with age and are due for immediate replacement.

Water separator filters and an engine mounted fuel filters are installed for the engine and generator.

Recommendations:

- 1. Category A. Replace all the flexible fuel lines on the diesel supply and return. Flexible tubing used for the transfer of fuel must comply with ISO 7840 and be replaced every 10 years.*

Steering gear

A wheel is attached to a binnacle in the cockpit. Movements of the wheel operate chains and encased cables that run through sheaves to a large quadrant bolted to the head of the rudderstock.

The steering moves smoothly from hard over to hard over with no excessive resistance. The steering cables are slack and should be tensioned slightly at the quadrant.

The steering cables have not been lubricated. This has allowed patches of corrosion to form in some places. The cables must be removed and inspected. If any defects are found the steering cables must be replaced.

An Autohelm autopilot and emergency tiller steering are provided. The autopilot appears to have been correctly installed and functioned when tested during the sea trial. The emergency tiller was not tested.

Recommendations:

- 1. Category A. Remove the steering cables and check for chafe and broken strands. If any defects are found the cables must be replaced. Lubricated the steering cables before installation.*

Bilge pumps

Whisper is fitted with the following bilge pumping arrangements:

- A manual pump is operated from the saloon.
- A Rule electric pump with automatic switch located in the bilge sump.

Adequate bilge pumping is installed on the vessel and all is visually in good condition.

Gas installation

A gas bottle is stored in a dedicated locker situated on the starboard side deck. The locker is drained overboard from its lowest part. The gas bottle is not strapped down.

Gas flows through a bottle mounted regulator and flexible tubing which is due for replacement in May 2021. The flexible tubing terminates at a bulkhead fitting correctly mounted in the side of the locker.

Within the vessel copper tubing runs from the bulkhead fitting to a correctly positioned shut-off valve.

The final run to the cooker has been made in flexible tubing which is due for immediate replacement.

The gas system must be disconnected at the bottle and not used until the following recommendations have been implemented.

Recommendations:

- 1. Category A. Strap down the gas bottle.*
- 2. Category A. Replace the length of flexible gas hose that is connected to the gas stove.*

Plumbing washroom & toilet installation

The surfaces and fittings in the washrooms are clean and visually in good condition. The gasket between the bowl and pedestal of the forward toilet is due for replacement. Sewerage is leaking from the joint.

Freshwater is stored in a stainless steel tanks located beneath the saloon sole boards and seating. A pressure set provides water to all outlets.

Water is heated in a calorifier by residual water from the engine's cooling system and a 220V AC element.

Apart from the leaking toilet, the components of *Whisper's* plumbing washroom and toilet installation are in good condition with no further leaks or other defects found.

Hydraulic pack

A hydraulic pack for the Reckmann sail furling gear is situated beneath the saloon seating. The hydraulic pack is filled to the correct level and visually in good condition with no leaks or other defects found. The mainsail and genoa furling gear functioned when tested during the sea trial.

Tender & outboard

The tender & outboard were not lowered for inspection.

Electrical installations & electronics

Electrical installation

Whisper is equipped with DC and 220V AC systems. Six 12V DC batteries are correctly strapped down beneath the aft cabin berth. Isolation switches are provided for all battery banks.

The batteries are charged by a *Mastervolt* 220V AC 50 amp charger, a Victron 12V DC 30 Amp charger and an engine mounted alternator. The battery chargers and alternator produced the correct voltages when tested.

Battery monitoring is simple with volt and amp meters installed at the main switch panel.

Behind the main switch panel, no loose cables or signs of overheating found. The wiring behind the main switch panel is untidy.

Shore power is brought on board through a correctly mounted shore power socket. A 30MA RCD is installed directly downstream of the shore power socket.

In general *Whisper's* electrical installation and appliances are in visually in good condition with no serious defects found. The batteries were not load tested.

Navigation area & equipment

The following navigation equipment was found on the vessel:

- Brookes & Gatehouse GPS plotter.
- Brookes & Gatehouse echo sounder.
- Brookes & Gatehouse log.
- Brookes & Gatehouse radar.
- Brookes & Gatehouse wind instruments.

The Brookes & Gatehouse navigation suite is all newly installed and had not been calibrated at the time of the sea trial.

Bow thruster

Two Vetus electric bow thrusters are provided. The units are neatly installed with no leaks at the joints with the tunnel or signs of overheating found.

Outboard the bow thruster legs are in good condition with no defects found. The two, three bladed plastic impellers are visually in good condition but the splines are worn. The impellers should be replaced within one year.

The bow thrusters and their controls all functioned correctly when tested during the sea trial.

Recommendations:

- 1. Category C. Replace the bow thruster impellers.*

Refrigeration

Two cool boxes are provided. The cool boxes and the Isotherm cooling plates are clean and in good condition.

Two Isotherm air cooled refrigeration compressors are provided. The port compressor is neatly installed in an adequately ventilated locker. The starboard compressor is installed in a small poorly ventilated locker beneath the galley sole boards. The starboard compressor will run hot which will reduce its efficiency.

Recommendations:

- 1. Category E. The starboard refrigeration compressor should be moved to a ventilated locker or replaced with a water cooled appliance.*

Cathodic protection

The following anodes are attached to the vessel:

- One anode on each of the bow thruster cones. Half sacrificed.
- On new anode on the propeller cone.

Although the underwater metal parts of *Whisper* are free of corrosion, a galvanic isolator installed directly downstream of the shore power socket is an economical way of improving the vessel's cathodic protection.

Recommendations:

1. *Category E. Consideration should be given to installing a galvanic isolator directly downstream of the vessel's shore power socket.*

Safety & lifesaving equipment

Firefighting equipment

The following firefighting equipment is installed on the vessel:

- Parsi 13a 89b 3kg dry powder fire extinguisher located by the galley.
- ANAF 13a 89b 3kg dry powder fire extinguisher located in the aft cabin.

Inadequate firefighting equipment is installed on the vessel.

Recommendations:

1. *Category E. Service intervals on firefighting equipment must be observed.*
2. *Category A. Install a fire blanket within reach of the galley.*
3. *Category E. A gas extinguisher should be provided for use on engine room fires. If powder is released with the engine running it will be drawn into the cylinders resulting in severe corrosion of the engine's internal parts.*

Lifesaving equipment

The following lifesaving equipment was found:

- A new Plastimo six person life raft with over 24 hours supplies.

Recommendations:

1. *Category E. It is the responsibility of the master of the vessel to ensure that there is sufficient lifesaving equipment on board the vessel for all personnel. Lifesaving equipment must be adequate for the intended passage and within its service date.*

Ground tackle

A galvanised steel CQR anchor is pulled up in the bow roller. The anchor is connected to a length of galvanised steel short link chain by way of a stainless steel swivel.

A Galvanised steel stockless anchor is also included in the ships inventory.

The ground tackle is lifted by an electric windlass mounted on the foredeck. There is too much tension on the anchor chain. This puts an unnecessary strain on the windlass attachments. Once the anchor is pulled up in the bow roller it should be secured with a strop and the tension on the chain eased.

Recommendations:

- 1. Category A. Range and inspect the chain and the connection of the chain to the hull. If any defects are found, they must be corrected prior to deploying the ground tackle.*
- 2. Category A. Ten meters of 9mm chain must be provided for the stockless anchor.*
- 3. Category E. Once the bower anchor is pulled up in the bow roller fit a strop to the chain and release the tension on the windlass.*

General comments

The general condition of the yacht is good. The survey has uncovered several defects most of which are minor and relate to maintenance or a change in standards sine the vessel was first launched.

Summary of recommendations

Category A

The following recommendations require immediate attention:

- *Replace the crushed length of ducting on the Webasto cabin heater.*
- *All stiff or seized sea valves must be freed off or replaced. Correctly attach the handles to the sea valves.*
- *Ensure that all tube terminals that run to through-hull fittings positioned below the waterline are secured with two clips manufactured in 316 stainless steel.*
- *Replace the red coloured discharge hoses that are connected to through-hull fittings and stop all the leaks on hose connections located below the waterline.*
- *The hose for the supply to the galley foot pump must be reinforced.*
- *Access to all sea valves should be practised so that they can be closed quickly in an emergency.*
- *Replace the generator's flexible mountings, correctly attach the exhaust box and replace the section of flexible exhaust hose in the aft deck locker.*
- *Replace all the flexible fuel lines on the diesel supply and return. Flexible tubing used for the transfer of fuel must comply with ISO 7840 and be replaced every 10 years.*
- *Remove the steering cables and check for chafe and broken strands. If any defects are found the cables must be replaced. Lubricated the steering cables before installation.*
- *Strap down the gas bottle.*
- *Replace the length of flexible gas hose that is connected to the gas stove.*
- *Install a fire blanket within reach of the galley.*
- *Range and inspect the chain and the connection of the chain to the hull. If any defects are found, they must be corrected prior to deploying the ground tackle.*
- *Ten meters of 9mm chain must be provided for the stockless anchor.*

Category B

The following recommendations should be implemented before putting to sea:

- *Replace all the split rings used to secure lifelines with stainless steel split pins taped over.*

Category C

The following recommendations should be implemented within one year of the survey or at the next haul out:

- *Mask off the sides and lower section of the timber wedges located at the davit mounting points. Fill the cracks in the timber wedges with liquid epoxy resin.*
- *Replace the bow thruster impellers.*

Category D

The following recommendations should be implemented within the stated timescales:

- *To be carried out within two years. Strip the gelcoat from the rudder blade. Allow the laminate to dry until relative moisture readings of below 10 are recorded right across the rudder blade. Once dry, the rudder can be faired and an epoxy moisture barrier and antifouling can be applied closely following the instructions of the chosen paint manufacturer.*
- *To be carried out within three years. Replace the teak planking on the decks and cockpit benches.*

Category E

Recommendations of an advisory nature that carry no timescale:

- *At least eight props should be used when Whisper is placed on hard standing. All the props must be positioned beneath strengthened areas of the hull such as bulkheads.*
- *Ensure that the main engine and generator has been serviced following the manufacturer's instructions.*
- *The starboard refrigeration compressor should be moved to a better ventilated locker or replaced with a water cooled refrigeration compressor.*
- *Consideration should be given to installing a galvanic isolator directly downstream of the vessel's shore power socket.*
- *Service intervals on firefighting equipment must be observed.*
- *A gas extinguisher should be provided for use on engine room fires. If powder is released with the engine running it will be drawn into the cylinders resulting in severe corrosion of the engine's internal parts.*
- *It is the responsibility of the master of the vessel to ensure that there is sufficient lifesaving equipment on board the vessel for all personnel. Lifesaving equipment must be adequate for the intended passage and within its service date.*
- *Once the bower anchor is pulled up in the bow roller fit a strop to the chain and release the tension on the windlass.*

Category F

Recommendations that should be implemented before setting sails:

- *If the standing rigging is more than 10 years old, a full rig inspection backed up with a written report must be carried out every year.*
- *Service all the stiff winches and deck gear.*
- *Remove, wash and inspect all the halyards and running rigging. Any chaffed or damaged lengths must be replaced.*

I look forward to being of assistance should you require clarification of any of the points made in the report. I am available to supervise the implementation of any of the report's recommendations.



Date

David Dabney

24th March 2021

D. Dabney

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