



SURVEY REPORT COMMISSIONED BY MR. HENRIK LINDBLOM.

Survey initially commenced in April 2010 at the commencement of the first of two major refits. The second major refit was completed in December 2011 when the final report was commenced. The total haul outs was for a period of 14 months. Between the haul out periods, the owner took the boat for sea trials in the Indian Ocean for three months during which time he covered some 3,500 incident free nautical miles.

The survey was carried out jointly by Mr. Lesley Richard Beasley and Mr. Guy Cummins. The final report was completed on 15th December 2011, once all work had been completed on the boat.

BOAT NAME: Scorpio.

DESCRIPTION: Ketch rigged 43 foot sailing yacht.

DESIGNER AND BUILDER: Nautor Swan, Finland.

YEAR BUILT: 1979.

HULL NUMBER: 17.

LENGTH: 13 metres.

BREADTH: 4.2 metres.

DRAFT: 1.8 metres.

ENGINE: Perkins 4-236

HORSEPOWER: 77.5hp.

ENGINE NUMBER: LP22728VO1692OM



HULL

1. Inspected in April 2010, the hull was found to be in sound condition apart from two patches where filler had delaminated. These areas were on the starboard side of the leading edge of the keel and the starboard side of the leading edge of the rudder skeg. These patches have been subsequently ground out and refilled with epoxy.
2. There was no delaminating of the hull laminates in any area. The rudder was fair and the top and bottom bearings well within wear limitations. The prop and shaft were removed, the shaft straightened and the gearbox checked for alignment. The cutlass bearing was replaced.
3. The hull topside have now been stripped and re-painted as has the below waterline anti fouled area. The below waterline area was coated with five coats of West System Epoxy as well as 4 coats of International Interprotect on top of the previous Gelshield treatment, prior to ant-fouling.
4. All hull portholes (12) were taken out, inspected, cleaned, painted and reinstalled.
5. The exterior and the interior of the hull were re-inspected in November 2011 during the second haul-out, when the masts had also been taken off the yacht. All ship's stores and equipment had been removed from the yacht, making access for inspection excellent. There were no findings on the second inspection.

INTERIOR

1. Port side of the main bulkhead area was the only part of that bulkhead where access could be gained without removal of cabinetry. It was found to be solid with no signs of corrosion or de-lamination apparent.
2. Mast step base shows no sign of corrosion and all fittings and wiring are secure and in good condition.
3. The forward bulkhead, anchor chain locker and hawse pipe show no sign of structural stress or de-lamination. The chain has been re-galvanized during the second haul-out and is in as new condition.
4. All under sole areas are clean and free from stress or de-lamination signs. Fixtures and fittings are secure and the bilges are clean and dry.
5. Keel securing bolts are all tight, clean and free from rust as is the mast step.
6. The under port bunk area in the saloon, housing the fridge unit, plumbing and water system, are all in good condition and secure.



7. The starboard side settee area housing the battery banks, is clean and the batteries (new) are all secure and the wiring in good condition.
8. The engine room bulkhead shows no signs of stress or de-lamination. The engine bearers are sound with no signs of abnormalities.
9. The aft steering bulkhead is sound. The steering quadrant, cables and sheaves are all in good condition.
10. The engine was rebuilt in 2007 in New Zealand (documentation provided by owner). The engine has just had the mounts replaced during the current haulout. The engine starts easily and runs smoothly with no smoking at all revolutions in its range.
11. The prop shaft gland is sound and showing no signs of leakage.
12. The main auto pilot ram is solidly mounted and in good condition with no signs of stress. There is a second auto pilot that operates off the wheel, connected by sprocket and chain, which is also in good order and condition. A self steering wind vane unit is mounted to the transom. This has been serviced and recoated and is in good condition.
13. Through hull fittings have been checked during both haul-outs with one cock under the galley sole replaced and the balance lubricated and in good order.
14. Both manual bilge pumps were taken out and serviced. The electric bilge pump is new. Both toilets have been replaced as well as the holding tank. Toilet hoses were replaced with new pipe.
15. The old galley Formica counter tops were all replaced with Corian surfaces.
16. The entire interior has been stripped and re-varnished back to original condition.
17. All cushion covers were replaced with new fabric and the curtains also replaced.

DECK

1. New teak decks have been laid with new 15mm teak replacing the original 12mm.
2. All glasses of the deck hatches were taken off, inspected, cleaned and re-glued to the frames.
3. The cockpit and deckhouse have been sanded and re-painted as has the steering pedestal.
4. The horseshoe life rings and jackets and harnesses are all in good condition.
5. The safety lines have all been replaced with new swaged ends and wire.



6. The life raft (Viking) SN 10647846, CAT 1, 6 PAX, has been left for regular inspection to be returned in January 2012. It will be due for repacking next time in January 2015. According to the packing list, the inspected life raft includes emergency flares.
7. The life raft has been relocated to a new expressly designed bracket installed on the transom.
8. The gas cylinders (2x9kg) in the forward gas locker are in good condition as is the gas solenoid and hoses, which have been renewed.
9. All stainless steel objects on deck were thoroughly cleaned and polished. The pulpit and push pit rails and lifeline ports are in good condition as are all the stanchions. The stem head fitting with two CQR anchors mounted is in good condition. The chain (12mm) and anchors were re-galvanized. The anchor windlass has been re-coated and serviced and operates correctly. There are also two 60 pound Danforth anchors aboard, in as new condition.
10. The deck prism was replaced and a new round (melon) prism was installed at mid-deck aft of the main mast. Two new large storage boxes have been build on poop deck.
11. The dodger and the bimini material is new and in good condition and the frames are secure.

RIGGING

1. During the second haul-out both masts were taken off the yacht, inspected, serviced and repaired as necessary. Our final survey of the masts was undertaken after all corrective work had been finished.
2. All winches were taken off, serviced and drums re-chromed (ex. head sail winches). Three winches were replaced by new Harken Radial STC winches, sizes 35-40.
3. The mainmast section is sound and the spliced join is in good condition.
4. The spreaders and tangs of both masts and the mast steps of the main mast are in good condition with no sign of corrosion. New folding mast steps were added on main mast from spreaders to masthead and on mizzen from deck to spreaders.
5. The main mast track shows some very minor signs of corrosion.
6. The mizzenmast section is in good condition.
7. Both boom sections are in good condition. Both goosenecks have some "play", but are acceptable.
8. The main head stay was replaced. All other stays and shrouds of the main mast were



replaced in 2003 (documentation provided by owner). All these were cleaned and inspected. Norseman terminals were opened and inspected and found faultless.

9. All shrouds and stays of the mizzenmast were replaced.
10. New Rolly Tasker sails have replaced the old mainsail, headsail (135%) and mizzen. The spinnaker sock has been replaced with a new one.. Both sail covers are new.
11. On the owner's request a separate Rig Survey was conducted by David Samuelson of Precision Shipwrights. This survey also forms part of this report.

ELECTRICS AND ELECTRONICS

1. A new Mastervolt 80 battery charger has been installed.
2. Most of the original interior lights have been replaced by LED armature and lights.
3. Both instrument panels in the cockpit have been redesigned and rebuilt. All engine instruments, warning lights, buttons and switches in the cockpit have been replaced.
4. Instrument panels at navigation station below deck have been redesigned and rebuilt and wiring re-done.
5. New Solar panels, wires and regulator/monitor have been installed. Wind generator has been factory over-hauled and wiring from generator to battery bank renewed.
6. There are 3 VHF antennas, one at main masthead and two at mizzen, all new incl. wiring.

NAVIGATION EQUIPMENT

1. 2008 model ACR 406 Mhz EPIRB fitted to port of main companionway. Service date next is 6/2013.
2. Raymarine model ST 60 wind, depth, speed, and multi instruments in nav. area with repeaters in cockpit. All operational. 
3. SSB radio, Icom 710M with AT130 antenna tuner, operational.
4. The radio connects via a SCS PTC IIe Pactor3 modem to laptops running Airmail software. The owner has a subscription with Sailmail, next renewal date is 11/2012. 
5. VHF Icom 502 DSC with remote microphone for cockpit use. Two handheld units (Uniden Atlantis 250 and Horizon HX290). All operational. All three VHF antenna wires end up at nav station and any of them can be connected to any VHF or the AIS.



6. Autopilot No.1 Raymarine ST6000+ control head for a type 2 rotary drive with type 300 course computer. Operational.
7. Autopilot No.2 Raymarine 6002 control head for a hydraulic drive with S3G course computer. Operational. The autopilots have no common connections (ex ground) to minimize failure contamination. Either one can be controlled also by a Raymarine 600R remote.
8. NAVTEX NASA Target Pro. Operational.
9. GPS: Garmin model 128 in nav. area and separate identical unit in cockpit with separate antenna's. There is also a mobile GPS-USB antenna to be connected to laptops with charting software (see below) as additional back up. Handheld: Magellan Explorer packed in abandon ship bag with spare batteries.
10. AIS Class B transponder, model Digital Yacht AIT1000 with own dedicated GPS antenna. Operational.
11. Radar: Raymarine X40 - operational.
12. Electronic charts - CMAP charts on MAXSEA software installed on three separate computers, one permanently located at nav. station, the others are mobile.
13. A full set of paper charts for Thailand to Europe via South Africa and the Caribbean is located under the nav. table.

OTHER EQUIPMENT

1. A new Hypalon RIB dinghy is due for delivery by 20th February, prior to the vessel's departure for Europe via South Africa.
2. The four stroke outboard is four years old and in excellent condition.

FINDINGS

There are no findings major or minor.

OBSERVATIONS

This boat was originally built when accountants desire to cut costs had not yet reached the shop floor of the yacht building industry. The condition of the hull, both inside and out, is not what one expects to see in a boat as old as this. The condition is exceptional.

CONCLUSIONS

This vessel is in sound condition and is suitable for the purpose for which it was built, in spite of its age. There should be no problems in gaining insurance cover on this vessel in its present condition.

This vessel is fully equipped with all necessary navigational equipment to complete the task contemplated by the owner. A full range of spares appears to be onboard.

SURVEYORS CERTIFICATION:

- I certify that, to the best of my knowledge and belief:
- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions and conclusions.
- I have no present or prospective interest in the vessel that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.
- My compensation is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulate result, or the occurrence of a subsequent event.
- I have made a personal inspection of the vessel that is the subject of this report.
- This report is submitted without prejudice and for the benefit of whom it may concern.

ATTENDING SURVEYORS



Leslie Richard Beasley – Independent Surveyor

Commercial Yachtmaster Ocean (Power and Sail)

Marine Motorman Class 1

RYA Licensed Instructor

Member of South African Association of Professional and Technical Engineers.



George Guy Cummins – Independent Surveyor

Yachtmaster Ocean.