

REFIT MOTORYACHT : for Bermuda flag

L.O.A 74.8 m - 245'4''

Beam: 12.8 m - 41'0''

Draft: 4.10 m - 13'6''

Cruising Speed: 15 Knots

Builder: Peene Werft, Germany

Class: Lloyds Register of Shipping 100A1* LMC,UMS, MCA Compliant

Summarising the surveys

Certificate of Class: Lloyd's \times 100A1, \times LMC, UMS*

Docking survey

Cargo Ship Safety Construction

International Load Line Certificate

Lloyd's statutory surveys establishing SAFCON.

Also required for Class & Loadline.

1. Visual inspections
2. Ultrasonic testing of hull and tank tops
3. Tank inspections
4. Closing appliances
5. Rudder clearances
6. Shafts and bearings
7. Main engines and drive train
8. Generators
9. Starting arrangements
10. Switchboards

11. Insulation tests
12. Fire and bilge systems
13. Fuel system
14. Anchoring equipment
- 15.

Sea trials including functional tests Statutory surveys delegated to Class :

- 1.

MARPOL

- 1.

International Oil Pollution Prevention Certificate

- 1.

International Sewage Pollution Prevention

- 1.

International Air Pollution Safety Radio and GMDSS

Statutory certificates issued by flag state (Bermuda) :

1. Cargo Ship Safety Equipment Certificate
2. International Safety Management Certificate (ISM)
3. International Ship & Port Security Certificate (ISPS)
4. Safe Manning Document
5. This concludes all the mandatory surveys, inspections and work.

* The meaning of the Lloyd's Class Notation is:

⌘100A1 – The vessel was built under Special Survey to Lloyds highest class.

⌘LMC (Lloyd's Machinery Certificate) – The engines and other machinery were built and installed under Lloyd's Special Survey.

UMS (Unmanned Machinery Space) – The engine room does not have to be constantly manned when under way.

Lloyd's survey and out-of-water work

Hull Testing

The first task was a full condition survey of the hull, including ultrasonic thickness testing.

As the plating proved to be in excellent condition, no replacement steelwork was needed.

Propellers

Propellers were removed and the shafts withdrawn for inspection. This proved to be a demanding task as the shafts had to be disassembled into three sections and, as one of the couplings refused to budge, it had to be cut.

Shaft Wear proved to be slight even though. The vessel is fitted with the now old-fashioned 'stuffing box' glands, and no replacement was deemed to be necessary. But the outboard 'cutless' rubber bearings were worn and had to be replaced.

Rudders

Both rudders were removed, and their shafts and bearings were checked and serviced.

Through-hull Valve Check

All 75 through-hull valves were inspected and serviced – a big task as the majority required new seals. The anchor chains were also inspected and calibrated.

Tank Check

All the double-bottom tanks were inspected, repaired and repainted where necessary.

The only major concern was the sewage tank, where the toxic nature of the contents was known to have caused erosion, so after emptying and washing it out, an access hole was cut through the hull and the tank was sand-blasted to clean the steel, before the necessary repairs were carried out and the hull plating replaced. One of the advantages of steel construction is that cutting a hole in the hull and replacing it is a fairly straightforward operation.

Later the tank was painted internally using the latest coatings.

Other Lloyd's work

Alternators

The alternators that form part of the electricity generation system and all of its wiring were also tested by Lloyd's. On this occasion the main engine control wiring had to be replaced as, over the years, heat had caused the insulation to harden and crack.

Compressed Air

As the vessel's main engines are started using compressed air, rather than an electrical starter motor, the air start system and air receivers had to be checked. As the system incorporates high-pressure bottles, piping and valves, all are required to be pressure-tested and certified.

Cranes & gangways

All the yacht's cranes and gangways were tested, and some hydraulic rams were replaced.

Other checks

The Lloyd's work also incorporated many smaller, but nevertheless vitally important checks.

All fire extinguishers and fire-fighting equipment were serviced.

All life-saving equipment was serviced: the rafts and jackets were taken off the yacht and sent away to a certified service centre, everything inflatable was pressurised and checked before being repacked with new gas cylinders, and the survival packs were checked and the consumables changed.

Some of the cradles for the vessel's life rafts also had to be modified, as the familiar white glass-fibre cases had been changed to a new design.

Safety is something that one cannot leave to chance, and as some of the life rafts are stowed in hidden lockers in the mast structure and are required to roll down a ramp and fall clear overboard on release, a certified naval architect undertook a study to ensure this would still happen with the new life raft cases.

To be sure of this, a local engineering company was asked to set up a test rig and checks were made to ensure that the weighted cases would roll down the ramps when at various angles of heel.

On return to the yacht, all safety equipment was ticked off the master list and the labels checked, as it would have been a serious breach of regulations if any of these items was incorrectly tagged.

The rules that the vessel follows are complex because she was launched just prior to the arrival of the MCA Code for Large Commercial Yachts and carries exemption from some of its requirements

Safety Equipment Functional Checks

Functional tests were also carried out on all the safety-related equipment, including the recovery systems, the main engines and alarms, the engine controls, the generators, the

switchboard, anchoring and emergency lighting systems, bilge-pumps, fire-pump systems and the fire alarms – a major programme of work that kept the surveyors and engineers busy for many hours.

Tests such as these, which are demanded by Lloyd's, are safety-specific and focus on items such as alarms and emergency procedures. These are therefore required even though the main engines and the generators have their own maintenance programmes based on running hours.

The rules that the vessel follows are complex because she was launched just prior to the arrival of the MCA Code for Large Commercial Yachts and carries exemption from some of its requirements, while other items have been retrofitted.

On new yachts, for instance, no sleeping accommodation is allowed below the load waterline, but the vessel was built with a lower crew deck that was perfectly legal at the time.

At this time, the Hi-Fog fire-extinguishing system was extended to cover this deck – a major operation that involved cutting access holes in the deckheads to fit the high-pressure piping and spray heads, and then replacing the deckheads.

Other out-of-water work

Other major, but non-compulsory, work that it was convenient to carry out at the same time included:

- The removal and servicing of the stabiliser fins and the bow and stern side-thrusters.
- Checking and polishing the main propellers before they were refitted.
- Cleaning the anchor pockets.
- Checking and replacing the anti-corrosion anodes as necessary, including those inside the various sea chests, which are not accessible while the yacht is afloat.
- Cleaning the entire underwater part of the hull and painting it with antifouling, a job that was carried out quickly and efficiently by Navantia, as it does this type of work all the time.

Repainting the hull and superstructure

This was a huge job that was carried out by a team of just six people from the Yorkshire company Prestige Yacht Refinishers.

Prestige is run by Steve Lindley and his wife Linda, who do almost all of the painting between them – by hand – with Linda applying the paint by roller while Steve lays it out using 23cm silk brushes.

For the topsides, they used 68l of Awlgrip Flag Blue two-part polyurethane in a non-stop session that lasted three days, while the superstructure was painted 'Snow White' in sections.

Other work had to stop while the paint was being applied, so the crew were able to enjoy a round of golf for once

Before the actual painting could start, however, the team had masked up and sanded the whole yacht, and ground out and repaired all corrosion.

There is something about a hand-laid gloss coat that spray painting never quite achieves. Other work had to stop while the paint was being applied, so the crew were able to enjoy a round of golf for once.

At other times the crew were working non-stop with both the yacht's engineers and the shipyard workers and contractors, on unglamorous maintenance tasks on the ventilation trunking, hydraulics, pumps, valves, silencer mounts, oily water separator, Hi-Fog system, and numerous other items.

Sixty-five internal valves were dismantled and serviced in addition to the 75 sea-water valves, while a tank formerly used for lubrication oil was converted to hold oily bilge water, as this cannot be discharged overboard.

A new fuel tank for the emergency generator and two new underwater lights were also fitted.

Electronics

On the bridge deck, an engineer in special electronics worked steadily throughout the entire period to service and update the electronics suite, while the manufacturers of major items such as the radars and the VSAT antenna sent their own engineers to service this equipment.

These days, almost all electronic systems have periodic software updates that just require a CD to be run and the system tested, and this was the case with items such as the chart plotter, which was also modified to receive on-line updates.

The satellite television antenna was also changed in addition to routine servicing, receiving a new control module that enables it to stay on target more accurately while using less power.

The on-board security system also had a substantial upgrade, which included the installation of a new nightvision camera.

Perhaps the most complex electronics task involved the installation of a new hi-fi system and flatscreen TVs in all the cabins and public rooms

Other work by the electronics engineers included a full service and upgrade of the entire computer system, aimed at improving both its efficiency and security, while the WiFi system that provides guests and crew with access to the Internet was also upgraded.

Perhaps the most complex electronics task involved the installation of a new hi-fi system and flatscreen TVs in all the cabins and public rooms. This also required the television distribution system from the satellite receiver rack to be upgraded, a task that necessitated a great deal of rewiring.

Interior work

No major changes were made to The vessel's interior on this occasion but there was a substantial amount of refreshment work, including the cleaning or replacing of carpets and draperies and minor repairs to the joinery and decor.

When she reaches the stage when she requires a full interior upgrade, this will entail a much more substantial refit lasting several months.

The result

It is clear that what was billed as a 'Special Survey' also involved some fairly major refitting and further extensive work. So what was achieved?

From Lloyd's and the flag state's point of view, The vessel is fully compliant with all current laws, rules and regulations and has been confirmed as holding all the required certificates.

From the owner's and crew point of view, she is in excellent condition with everything on board up-to-date and in full working order, while the knowledge that all her safety systems are all totally up-to-date and functional is a cause for some satisfaction as well as peace of mind.

From the charter agency's and charter clients' point of view she is also, quite literally, top class.

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