

Rpt. 4b

YACHT

REPORT ON OIL ENGINE MACHINERY.

No. 6295

Date of writing Report Sept-24-27 When handed in at Local Office Sept-24-27 Port of Manchester & Paris

No. in Survey held at Manchester Date, First Survey June 20-1927 Last Survey Sept-23-1927

Rep. Book. Single on the Twin Screw Yacht "Lily Maid IV" Number of Visits 15 9th July 1928

Tons Gross Net

Built at Sartrowille (Seine) By whom built Soc. Paul Jouët & Cie Yard No. 1928

Engines made at Manchester By whom made L. Gardner & Sons Ltd Engine No. 2749 When made 1927

Donkey Boilers made at ✓ By whom made A.L. Boiler No. ✓ When made ✓

Brake Horse Power 54 Owners Captain C.E. Rumbold Port belonging to ✓

Com. Horse Power as per Rule 15.4 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended ✓

MAJOR ENGINES, &c.—Type of Engines Vertical, Semi-Diesel, air starting, reversible 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 300 Diameter of cylinders 8½" Length of stroke 9½" No. of cylinders 3 No. of cranks 3

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 13½" Is there a bearing between each crank Yes

Revolutions per minute 400 Flywheel dia. 28⅞" Weight 894 lbs. Means of ignition Hot bulb Kind of fuel used heavy oil

Crank Shaft, dia. of journals as per Rule 3.65" Crank pin dia. 3¾" Crank Webs Mid. length breadth 5⅞" Thickness parallel to axis ✓

as fitted 3¾" Mid. length thickness 2¼" Thickness around eye hole ✓

Flywheel Shaft, diameter as per Rule 2.4" Intermediate Shafts, diameter as per Rule 2.4" Thrust Shaft, diameter at collars as per Rule 2.52"

as fitted ✓ as fitted 2½" as fitted 3"

Tube Shaft, diameter as per Rule 2.65" Screw Shaft, diameter as per Rule 2.65" Is the ✓ shaft fitted with a continuous liner No

as fitted ✓ as fitted 2¾" as fitted 3" Is the after end of the liner made watertight in the

Bronze Liners, thickness in way of bushes as per Rule 1.125" Thickness between bushes as per rule 1.125" Is the after end of the liner made watertight in the

as fitted ✓ as fitted 1.125" as fitted 1.125" Is the after end of the liner made watertight in the

Propeller boss ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓

If two liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved Oil Gland or other appliance fitted at the after

end of the tube shaft Yes Length of Bearing in Stern Bush next to and supporting propeller 11"

Propeller, dia. 36" Pitch 34" No. of blades 4 Material Man. Bronze whether Movable No Total Developed Surface 3.4 sq. feet

Method of reversing Engines Camshaft adjustment Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

ch-dip & forced Thickness of cylinder liners ✓ Are the cylinders fitted with safety valves No Are the exhaust pipes manifolds water cooled

conducing material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Cooling Water Pumps, No. 1 driven by engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. 1 Diameter 1¾" Stroke 2½" Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line No. and Size How driven ✓

Ballast Pumps, No. and size ✓ Lubricating Oil Pumps, including Spare Pump, No. and size One-1½ bore x 2½ off stroke

Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces one hand pump See Plan

In Holds, &c. ✓

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ✓

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ✓ Are the Bilge Suctions in the Machinery Spaces

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks valves & cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates ✓ Are the Overboard Discharges above or below the deep water line above (2")

Are they each fitted with a Discharge Valve always accessible on the rating of the vessel ✓ Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

What pipes pass through the bunkers ✓ How are they protected ✓

What pipes pass through the deep tanks ✓ Have they been tested as per Rule ✓

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ✓

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

compartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

Main Air Compressors, No. 1 No. of stages 1 Diameters 4" Stroke 2½" Driven by Main Engine Ch.

Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 1⅞" Stroke 4" Driven by For Gardner Pacific Eng.

Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule 1.125" as fitted 1⅞"

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule ✓

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Plug in end.

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓

Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

Starting Air Receivers, No. 2 Total cubic capacity 8 ft³ Internal diameter 10" thickness ¼" Working pressure by Rules 580 lbs./in²

Seamless, lap welded or riveted longitudinal joint Seamless Material Mild Steel Range of tensile strength 28/32 tons Working pressure by Rules 580 lbs./in²

W316-0087 1/2

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafing *Yes*

Receivers *Yes*

Separate Tanks *Yes*

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR

The foregoing is a correct description,

L. GARDNER & SONS LIMITED.

William Gardner

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1927. June 30. July 5. 12. 13. 14. 20. Aug. 11. 16. 23. Sept 6. 13. 20. 23. 24/5
During erection on board vessel - 1927. November 29th. 1928. 27th Jan. 17th Feb. 9th July
Total No. of visits 19

Dates of Examination of principal parts - Cylinders 13/4/27 Covers 1/7/27 Pistons 20/7/27 Rods ✓ Connecting rods 20/7/27

Crank shaft 5/9/27 Flywheel shaft ✓ Thrust shaft 20/7/27 Intermediate shafts 6/9/27 Tube shaft ✓

Screw shaft 23/8/27 Propeller 6/9/27 Stern tube 23/9/27 Engine seatings Engines holding down bolts

Completion of fitting sea connections 17/2/28 Completion of pumping arrangements 17/2/28 Engines tried under working conditions 21/5/28

Crank shaft, Material Mild Steel Identification Mark 49 A Flywheel shaft, Material Identification Mark

Thrust shaft, Material Mild Steel Identification Mark 7946 B Intermediate shafts, Material Mild Steel Identification Marks A. 53.

Tube shaft, Material Identification Mark Screw shaft, Material Mangrove Bronze Identification Mark 109 B

Is the flash point of the oil to be used over 150° F. *Yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* If so, have the requirements of the Rules been complied with *✓*

Is this machinery duplicate of a previous case *No* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. The above main engine of Gardner 3TS type

together with one Gardner 4SESA, Type 1-0V paraffin auxiliary engine No 27413 (direct coupled to a houston

Generator No 52798, volts 25/37, amps 11/12, RPM 770 & clutch coupled to a Gardner 1 3/8 x 1 1/4" Air Comp? No 450)

have been built under special survey and the materials tested in accordance with the Rules

of this Society. The materials so far as can be seen are sound and the workmanship is good.

A test bed trial of the above engines under full load proved satisfactory and the main

engines manoeuvred well. The valves & fittings of the air reversing control system

have been hydraulically tested in view of Secs. 6th Sept. 1927.

The above engines are in our opinion eligible for the notation of + L.M.C with date

when fitted on board the vessel in accordance with the Rules of this Society.

A general trial of these engines has been carried out when fitted on board

and gave satisfactory result

Amount charged to Messrs. Gardner & Sons £5 (19-0-0) = £7-4-0

The amount of Entry Fee ... £4:4:0 When applied for, 24-9-1927

Special ... £7:0:0 Date 10-9-28

Travelling Expenses (if any) £180 { 26/224 { 31/10/22

Committee's Minute 27 JUL 1928

Assigned + L.M.C. 27.28

Oil Engines

Rpt. 9a.

Port of

MANCHESTER

YACHT.

Continuation of Report No. dated

on the

Capt. Rumbold's Yacht "LILY MAID IV".

3TS Engine:-

Plans enclosed -

General Arrgt.

Crankshaft.

Thrust Shaft.

Flywheel.

Arrgt. of Clutch.

Intermediate Shafts.

Connecting Rod.

Air Bottles.

OV Engine:-

General Arrgt.

Cylinder.

Crankshaft.

Flywheel.

Connecting Rod.

Air Compressor.

Stern gear.

Fuel Tanks.



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W316-0087 2/2