

REPORT ON OIL ENGINE MACHINERY.

No. 20039

Date of writing Report 3rd NOV. 1949 When handed in at Local Office 10th Dec 1949 Port of SOUTHAMPTON Received at London Office 15 DEC 1949

No. in Survey held at WOOLSTON, SOUTHAMPTON. Date, First Survey 16th MARCH 1948. Last Survey 15th NOV. 1949. Reg. Book. Num. of Visits 68.

Single on the Twin Triple Quadriple Screw vessel M.V. BALMORAL. Tons Gross 688.10 Net 688.10

Built at WOOLSTON, SOUTHAMPTON. By whom built JOHN I. THORNCROFT & CO LTD. Yard No. 4120 When built 1949

Engines made at WOOLSTON, SOUTHAMPTON. By whom made JOHN I. THORNCROFT & CO LTD. Engines No. D. 104/5. When made 1949

Donkey Boilers made at By whom made THE SOUTHAMPTON ISLE OF WIGHT AND SOUTH OF BOILER No. When made

Brake Horse Power 1200 TOTAL Owners. ENGLAND ROYAL MAIL STEAM PACKET CO LTD Port belonging to SOUTHAMPTON

M.N. Power as per Rule 334. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

Trade for which vessel is intended FOR SERVICE SOUTHAMPTON TO ST. HELENS & NEEDLES WITHIN 1.0 W. & LANCASTER HARBOUR ALSO SOUTHAMPTON TO WEXMOUTH & NEWCASTLE FROM APRIL TO OCTOBER

OIL ENGINES, &c. — Type of Engines DIRECT REVERSING AIRLESS INJECTION or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 700 lbs/sq. in. Diameter of cylinders 320 m.m. Length of stroke 426 m.m. No. of cylinders 6 No. of cranks 6 PLUS SCVENGE PUMP & CRANK

Mean Indicated Pressure 80 lbs/sq. in. Ahead Firing Order in Cylinders 1, 5, 3, 4, 2, 6 Span of bearings, adjacent to the crank, measured

from inner edge to inner edge 452 m.m. Is there a bearing between each crank YES Revolutions per minute 300

Flywheel dia. 35.4" Weight 500 lbs. Moment of inertia of flywheel (lbs. in² or Kg. cm²) 86,400 Means of ignition COMPRESSION Kind of fuel used OIL GAS

Crank Solid forged dia. of journals as per Rule 195 m.m. Crank pin dia. 195 m.m. Crank webs Mid. length breadth 260 m.m. Thickness parallel to axis

Shaft, Semi built dia. of journals as fitted 195 m.m. Crank webs Mid. length thickness 106 m.m. Thickness around eye hole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule 5.5" Thrust Shaft, diameter at collars as fitted 195 m.m.

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 6" DIA. IN BODY 5.2" DIA. AT BUSHES Is the screw shaft fitted with a continuous liner NO

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 tube shaft YES If so, state type FEDERAL VAL Length of bearing in Stern Bush next to and supporting propeller 25"

Propeller, dia. 5-6" Pitch 6-8" No. of blades 4 Material MAN BRONZE whether moveable NO Total developed surface 11.5 sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm²) 171,000 (ACTUAL MEASUREMENT) Kind of damper, if fitted NONE FITTED

Method of reversing Engines LONG SHAFT Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of

lubrication PRESSURE Thickness of cylinder liners 32 m.m. Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

lagged with non-conducting material LAGGED 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 PER M. ENGINE 6 S. pump Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

Bilge Pumps worked from the Main Engines, No. 2 PER ENGINE Diameter 110 m.m. Stroke 120 m.m. Can one be overhauled while the other is at work NO

Pumps connected to the Main Bilge Line No. and size 2 TWIN M.E. PUMPS 1 GENERAL SERVICE PUMP 1 SANITARY & BILGE PUMP

How driven DIRECT 16 TONS/HR/ENGINE ELECTRIC MOTOR 30 TONS/HR ELECTRIC MOTOR 15 TONS/HR

Is the cooling water led to the bilges NO If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements

Ballast Pumps, No. and size 110 m.m. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 DUAL PUMP PER M.E. DIRECT DRIVEN

Are two independent means arranged for circulating water through the Oil Cooler YES Suctions, connected to both main bilge pumps and auxiliary

bilge pumps, No. and size In machinery spaces TWO AT 3"; TWO AT 2" In pump room

Holds, &c. ONE AT 2 1/2" AFT. COMP. ; TWO AT 2" FORB. COMP.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size TWO AT 3"

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes YES Are the bilge suction 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 Are they fixed

efficiently high on the ship's side to be seen without lifting the platform plates YES Are the overboard discharges above or below the deep water line ABOVE

Are they each fitted with a discharge valve always accessible on the plating of the vessel YES Are the blow off cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers NONE How are they protected

What pipes pass through the deep tanks NONE 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 YES

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 YES Is the shaft tunnel watertight Is it fitted with a watertight door worked from

Is the vessel 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. NONE ON MAIN ENG. No. of stages diameters stroke driven by

Auxiliary Air Compressors, No. ONE No. of stages Two diameters 2.25" & 5" stroke 3.5" driven by ELECTRIC MOTOR

Small Auxiliary Air Compressors, No. ONE No. of stages Two diameters 1.5" & 3.75" stroke 3.25" driven by DIESEL GEN. ENG.

Is provision made for first charging the air receivers DIESEL DRIVEN COMPRESSOR

Saving Air Pumps, No. 1 PER MAIN ENGINE diameter 670 m.m. stroke 426 m.m. driven by MAIN ENGINE

Auxiliary Engines crank shafts, diameter as per Rule 3" No. 2 Position P. & S. AFT.

Have the auxiliary engines been constructed under special survey YES Is a report sent herewith YES

014935-014945-0278

AIR RECEIVERS:—Have they been made under survey YES ✓ State No. of report or certificate D. 3580.

Is each receiver, which can be isolated, fitted with a safety valve as per Rule. YES ✓

Can the internal surfaces of the receivers be examined and cleaned. YES ✓

Is a drain fitted at the lowest part of each receiver. YES ✓

Injection Air Receivers, No. NONE ✓

Cubic capacity of each. ✓

Internal diameter. ✓

thickness. ✓

Seamless, welded or riveted longitudinal joint. ✓

Material. ✓

Range of tensile strength. ✓

Working pressure. ✓

by Rules. ✓

Starting Air Receivers, No. THREE ✓

Total cubic capacity. 1 AT 13 CU. FT. (MAIN)

Internal diameter. MAIN 21.5" AUX 19"

thickness. MAIN 5/8" AUX 7/16"

Working pressure. ✓

Actual. ✓

Seamless, welded or riveted longitudinal joint. WELDED ✓

Material. O.H.M. STEEL

Range of tensile strength. 26-30 T.P.S.

Working pressure. ✓

by Rules. ✓

IS A DONKEY BOILER FITTED No ✓

If so, is a report now forwarded. ✓

Is the donkey boiler intended to be used for domestic purposes only. UNDER 50 lbs./sq. in. ✓

PLANS. Are approved plans forwarded herewith for shafting. 11.5.48

(If not, state date of approval)

Receivers. 16.3.48 & 14.7.48

Separate fuel tanks. 30.7.48

Donkey boilers. ✓

General pumping arrangements. 8.6.48

Pumping arrangements in machinery space. 8.6.48

[INCORPORATED ON GENERAL PUMPING ARR.]

Oil fuel burning arrangements. ✓

Have Torsional Vibration characteristics been approved. YES ✓

Date of approval. 31.3.48

SPARE GEAR.

Has the spare gear required by the Rules been supplied. YES ✓

State the principal additional spare gear supplied. SEE ATTACHED SPARE GEAR LIST.

JOHN I. THORNCROFT & CO. LIMITED,

The foregoing is a correct description.

Manufacturer.

Dates of examination of principal parts—Cylinders. 11.7.49 Covers. 11.7.49 Pistons. 11.7.49 Rods. ✓ Connecting rods. 6.7.49
Crank shaft. 11.7.49 Flywheel shaft. ✓ Thrust shafts. 12.5.49 Intermediate shafts. 12.5.49 Tube shaft. ✓
Screw shafts. 4.5.49 Propellers. 9.5.49 Stern tubes. 4.5.49 Engine seatings. 12.7.49 Engine holding down bolts. 15.9.49
Completion of fitting sea connections. 10.6.49 Completion of pumping arrangements. 30.9.49 Engines tried under working conditions. 28.10.49
Crank shaft, material. STEEL Identification mark. S. LLOYDS 18674 H.A.I. 12.5.49. 13221
Thrust shaft, material. STEEL Identification mark. S. LLOYDS 18674 H.A.I. 12.5.49. 13221
Flywheel shaft, material. STEEL Identification mark. S. LLOYDS 18674 H.A.I. 12.5.49. 13221
Intermediate shafts, material. STEEL Identification marks. F594, 567, 829
Tube shaft, material. STEEL Identification mark. F602 P, F602 S Screw shaft, material. STEEL Identification mark. F609 (P), F609 (S)
Identification marks on air receivers. MAIN & AUX. - LLOYDS TESTED 650 LBS/sq. in. C.N.L. 14.6.49.

Welded receivers, state Makers' Name. JOHN I. THORNCROFT, WOLSTON.

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 ✓

Description of fire extinguishing apparatus fitted. 2-2 1/2" INST. HOSE COUN. IN E.R.; 4-2 GALL. & 1-10 GALL. FOAMITE FIRE EXTINGUISHERS IN E.

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. ✓

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with. NOT REQUIRED

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 machinery of this vessel has been constructed under special survey to approved plans and Rule requirements. The machinery has been satisfactorily installed, examined under working conditions and found satisfactory. The material and workmanship are good.

The machinery of this vessel is in a good and safe working condition and is eligible in our opinion to have record of L.M.C. 11-49.

Attached herewith are following certificates:-

Two crank shafts; two thrust shafts; six intermediate shafts, two screw shafts and two couplings. N° C. 74336; F. 9467; F. 9382, respectively. Port & starboard propellers, main and auxiliary air receivers.

The amount of Entry Fee ... £149 17 0

Special AIR RECEIVERS £12 0 0

When applied for. 19

Donkey Boiler Fee... £ 0 0 0

When received. 19

Travelling Expenses (if any) £5. 4 6

FRI. 13 JAN 1950

Committee's Minute

Assigned. + LMC 11-49 Oil Eng. O.C.

B. H. Lamb, J. M. Nicholas
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation