

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 2024.

JUL 11 1938.

Received at London Office

MAY 21 1938

Date of writing Report 10.6.38 When handed in at Local Office 17.5.38 Port of Bremen
 No. in Survey held at 14.5.38 Date, First Survey 25th Nov. 37 Last Survey 5th May 1938
 Reg. Book. *Mannheim* Number of Visits 12
 Tons { Gross
 Net
 on the *Single* Screw vessel *GOLD FINDER*
 Triple
 Quadruple
 Built at *Hamburg-Kilchhusen* By whom built *Messrs. G. Reuck* Yard No. 636 When built 1938
 Engines made at *Mannheim* By whom made *Messrs. Motorenwerke Mannheim & G.* Engine No. 39474/51228 When made 1938
 Donkey Boilers made at *Mannheim* By whom made *Messrs. J. E. Humphrey, London* Boiler No. — When made —
 Brake Horse Power 250 Owners *Mr. J. E. Humphrey, London* Port belonging to —
 Nom. Horse Power as per Rule 64 Is Refrigerating Machinery fitted for cargo purposes — Is Electric Light fitted —
 Trade for which vessel is intended *Rt. 135 ft. 13 13/16"* 2 or 4 stroke cycle 4/ Single or double acting *single*

OIL ENGINES, &c. Type of Engines

Maximum pressure in cylinders 45 kg/cm² Diameter of cylinders 230 mm Length of stroke 350 mm No. of cylinders 8 No. of cranks 8
 Mean Indicated Pressure 6.65 kg/cm² Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 267 mm Is there a bearing between each crank *yes*
 Revolutions per minute 350 Flywheel dia. 880 mm Weight 780 kg Means of ignition *dis. ign.* Kind of fuel used *gas oil on test bed*
 Crank Shaft, { Solid forged
 Semi built dia. of journals as per Rule 150 mm Crank pin dia. 150 mm Crank Webs Mid. length breadth 210 mm Thickness parallel to axis
 All built as fitted 150 mm Mid. length thickness 70 mm Thickness around eye hole
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
 as fitted Tube Shaft, diameter as per Rule as fitted Is the { tube
 as fitted Screw Shaft, diameter as fitted shaft fitted with a continuous liner {
 as fitted Thickness between bushes as per Rule Is the after end of the liner made watertight in the
 as fitted Bronze Liners, thickness in way of bushes as fitted 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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller — sq. feet
 Propeller, dia. — Pitch — No. of blades — Material — whether Moveable — Total Developed Surface — Means of lubrication
 Method of reversing Engines *by hand* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *yes* Are the exhaust pipes and silencers water cooled or lagged with
 forced Thickness of cylinder liners 13 mm Are the cylinders fitted with safety valves *yes* non-conducting material *coated* 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; 7.8 m³/h 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 85 mm Stroke 65 mm Can one be overhauled while the other is at work —

Pumps connected to the Main Bilge Line { No. and Size
 How driven
 Is the cooling water led to the bilges — If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
 arrangements
 Main engine
 Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1; 3.1 m³/h.
 Ballast Pumps, No. and size — Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 Are two independent means arranged for circulating water through the Oil Cooler In Pump Room —
 Pumps, No. and size: — In Machinery Spaces
 In Holds, &c. —

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size — Are the Bilge Suctions in the Machinery Spaces
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes —
 led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges —

Are all Sea Connections fitted direct on the skin of the ship — Are they fitted with Valves or 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 —
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel — Are the Blow Off Cocks fitted with a spigot and brass covering plate —
 What pipes pass through the bunkers — How are they protected —
 Have they been tested as per Rule —

What pipes pass through the deep tanks —
 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 it fitted with a watertight door — worked from —
 Is the Shaft Tunnel watertight —

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

What provision is made for first Charging the Air Receivers — Diameter — Stroke — Driven by —
 Scavenging Air Pumps, No. — as per Rule — Position —
 Auxiliary Engines crank shafts, diameter as fitted *journals 65 pins 70 mm* Is a report sent herewith —

Have the Auxiliary Engines been constructed under special survey *yes*

B.S.B.
30.6.38

AIR RECEIVERS:—Have they been made under survey *yes* Are reports or certificates now forwarded *Certificates attached*
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. *2* Cubic capacity of each *2 x 250 lbs* Internal diameter *3 7/8* thickness *6.5 mm*
Seamless, lap welded or riveted longitudinal joint *Seamless* Material *S.M. steel* Range of tensile strength *51,600 lbs* Working pressure by Rules *32.86 atm.* Actual *30 atm.*

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only *yes* If so, is a report now forwarded? *yes*

PLANS. Are approved plans forwarded herewith for Shafting *4th October 1937* Receivers *24th Aug. 37* Separate Fuel Tanks *6th Nov. 37*
(If not, state date of approval)
Donkey Boilers *—* General Pumping Arrangements *—* Pumping Arrangements in Machinery Space *—*
Oil Fuel Burning Arrangements *—*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*
State the principal additional spare gear supplied *as per Rules.*

Identification Marks on Air Receivers. *1113*

Lloyd's Test

854 lbs

H.P. *427 lbs*

H.K. *12-2-38*

Lloyd's Test (Gen. Lloyd)

90

No *104550*

60 atm ✓ Please see London

H.P. *30 atm* letter of the

H.P. *5-5-38* 29th April 1938)

The foregoing is a correct description,
MOTOREN-WERKE MANNHEIM A.G.
VORM. BENZ ABT. STAT. MOTORENBau

Manufacturer.

Dates of Survey while building { During progress of work in shops -- *1937 Nov. 25; 1938 Jan. 21, 27; March 8, 25, 29, 30; April 5, 23; May 3, 4, 5.*
During erection on board vessel -- }
Total No. of visits *12*

Dates of Examination of principal parts—Cylinders *29.3.38* Covers *25.3.38* Pistons *4.5.38* Rods *—* Connecting rods *4.5.38*
Crank shaft *25.3.38* Flywheel shaft *—* Thrust shaft *—* Intermediate shafts *—* Tube shaft *—*
Screw shaft *—* Propeller *—* Stern tube *—* Engine sealings *—* Engines holding down bolts *—*

Completion of fitting sea connections *—* Completion of pumping arrangements *—* Engines tried under working conditions *—*
Crank shaft, Material *S.M. steel* ✓ Identification Mark *H.P. 118-25-2-38* Flywheel shaft, Material *—* Identification Mark *—*
Thrust shaft, Material *—* Identification Mark *—* Intermediate shafts, Material *—* Identification Marks *—*
Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *—* Identification Mark *—*

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

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

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *—*

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 *—*

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *Standard* type of makers *—*

General Remarks (State quality of workmanship, opinions as to class, &c.)

This heavy oil main engine, and the aux. engines etc have been constructed under special survey in accordance with the Soc. Rules and Regulations, as well as with the approved plans, the Secretary's letters, and instructions thereto. The material used in the construction is good and the workmanship satisfactory.

The engines have been tested on the makers' test bed for several hours running under full load, 10% overload and part loads in the presence of the undersigned, and were found to work satisfactorily during these trials.

In our opinion the vessel for which these engines are intended will be eligible for the notation of + L.M.C. (with date) when the whole machinery has been fitted satisfactorily on board, and tried under full working conditions.

The amount of Entry Fee *4/5 Rs. 32.00*

Special *4/6 Rs. 256.00*

1x bed for machinery *63.00*

1x Donkey Boiler Fee *21.00*

your test and rec. *10.00*

Travelling Expenses (if any) *£ 205.00*

When applied for,

20.5.1938

When received,

23.6.1938

McMurrer

N. Petersen.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 15 JUL 1938

Assigned *See Sam 22829*



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