

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 1960.

Received at London Office

OCT 23 1937

Date of writing Report 14th Oct. 1937 When handed in at Local Office 19.10.1937 Port of Bremen
 No. in Survey held at Kugelsberg Date, First Survey 3rd Decemb. 36 Last Survey 12th October 1937
 Reg. Book. ag 138 Number of Visits 75
 on the Single Screw vessel Yard No. 194 Tons Gross
Triple
Quadruple
 Built at Hamburg By whom built Memo. Deutsche Werkst. A. G. Yard No. 194 When built 1937
 Engines made at Kugelsberg By whom made Memo. M. A. N. A. G. Engine No. 691 210 When made 1937
 Donkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓
 Brake Horse Power 4100 Owners ✓ Port belonging to ✓
 Nom. Horse Power as per Rule 1107 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓
 Trade for which vessel is intended ✓

OIL ENGINES, &c.—Type of Engines D6 2u 60/110

Maximum pressure in cylinders 45 atem 23 5/8 or 4 stroke cycle 2 Single or double acting double
 Mean Indicated Pressure 5.3 Diameter of cylinders 600 mm Length of stroke 1100 mm No. of cylinders 6 No. of cranks 6
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 885 Is there a bearing between each crank yes
 Revolutions per minute 116 Flywheel dia. 2080 mm Weight 3120 kg Means of ignition solid inj Kind of fuel used Diesel oil
 Crank Shaft, Solid forged dia. of journals as per Rule ✓ Crank pin dia. 420 mm Crank Webs Mid. length breadth 790 mm Thickness parallel to axis 265 mm
Semi built as fitted 420 mm Mid. length thickness 265 shrunk Thickness around eyehole 185
All built
 Flywheel Shaft, diameter as per Rule ✓ Intermediate Shafts, diameter as per Rule ✓ Thrust Shaft, diameter at collars as per Rule ✓
 as fitted 420 mm as fitted ✓ as fitted ✓
 Tube Shaft, diameter as per Rule ✓ Screw Shaft, diameter as per Rule ✓ Is the tube shaft fitted with a continuous liner ✓
 as fitted ✓ as fitted ✓ screw

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 ✓
 as fitted ✓ as fitted ✓
 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 ✓

Propeller, dia. ✓ Pitch ✓ No. of blades ✓ Material ✓ whether Moveable ✓ Total Developed Surface ✓ sq. feet
 Method of reversing Engines by cumpr. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced
 Thickness of cylinder liners 40 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or 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 ✓

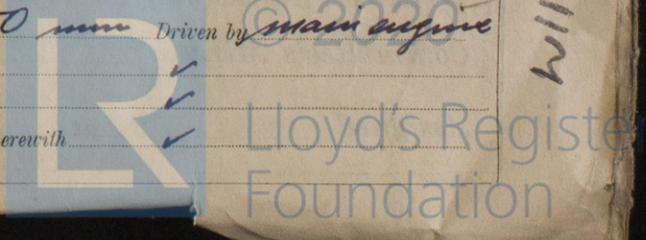
Cooling Water Pumps, No. ✓ Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓
 Bilge Pumps worked from the Main Engines, No. ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 Pumps connected to the Main Bilge Line { No. and Size ✓
 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 ✓
 Ballast Pumps, No. and size ✓ Main engine Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size, toothed wheel P. 40 mm 1/4
 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 ✓ In Pump Room ✓
 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 ✓
 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 ✓
 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. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 100 mm Stroke 150 mm Driven by main engine
 What provision is made for first Charging the Air Receivers ✓
 Scavenging Air Pumps, No. 1; Tandem Diameter 1280 mm Stroke 850 mm Driven by main engine
 Auxiliary Engines crank shafts, diameter as per Rule ✓ No. ✓ Position ✓
 as fitted ✓

Have the Auxiliary Engines been constructed under special survey ✓ Is a report sent herewith ✓

W1191-0026



AIR RECEIVERS:—Have they been made under survey Are reports or certificates now forwarded
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule
 Can the internal surfaces of the receivers be examined and cleaned Is a drain fitted at the lowest part of each receiver
Injection 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
 Actual
Starting Air Receivers, No. Total cubic capacity Internal diameter thickness
 Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules
 Actual

IS A DONKEY BOILER FITTED? If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only
PLANS. Are approved plans forwarded herewith ^{crank} Shafts Receivers Separate Fuel Tanks
 (If not, state date of approval) **27-10-36**

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

The foregoing is a correct description,
Maschinenfabrik Augsburg-Nürnberg A.G.
K. H. Müller *per Order* Manufacturer.

Dates of Survey while building
 During progress of work in shops-- 1936/Dec. 3, 16. 1937-Jan. 13, 28. Feb. 23, March 4, 13 April 3, 9, 22, 23 May 14, 18, 21, 22, 24, 25 June 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30. July 4, 5, 6, 9, 16, 17, 21, 24, 30, 31. Sept. 1, 2, 3, 4, 6, 7, 8, 9, 11, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30. October 1, 2, 6, 7, 10, 12.
 During erection on board vessel--
 Total No. of visits **75**

Dates of Examination of principal parts—Cylinders **30-8-37** Covers **10-11/9/37** Pistons **4, 5, 16/8/37** Rods **14, 16/9/37** Connecting rods **24/8/37**
 Crank shaft **23/8/37** Flywheel shaft **6/9/37** Thrust shaft Intermediate shafts Tube shaft
 Screw shaft Propeller Stern tube Engine seatings 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 **7. N. 116 30/12/12/36** Flywheel shaft, Material **S. M. Steel** Identification Mark **7. N. 116 31/12/12/36**
 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 If so, state name of vessel **Yard N° 175 Deutsche Werk, Hamburg**

General Remarks (State quality of workmanship, opinions as to class, &c. **This heavy oil engine has been built under special survey in compliance with the approved plans, the Secretary's letters and instructions thereto and otherwise in conformity with the Society's Requirements. The materials used in construction are of good quality and made at works recognized by the Committee and taken by the Society's Surveyors. The workmanship was found to be satisfactory. In our opinion the vessel for which this engine is intended will be eligible for the notation of **L M G** (with date) when the engine is satisfactorily fitted on board and tried under full working conditions.**

The amount of Entry Fee **4/5² £ 96.00** : When applied for, **21.10.1937**
 Special ... **4/5² £ 2067.00** :
 Donkey Boiler Fee ... **£** :
 Travelling Expenses (if any) **£ 86.00** : **2.12.1937**

M. Schneider *W. Petersen*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUE. 1 FEB 1938**
 Assigned **See Item 22630**



Certificate (if required) to be sent to the Surveyors as requested not to write on or below the space for Committee's Minute.