

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 278

London

JUL 25 1938

omm. 684731.

Received at London Office

Date of writing Report 11.7.38 When handed in at Local Office 18.7.38 Port of Dusseldorf

No. in Survey held at Cologne Date, First Survey 6.12.37. Last Survey 11.7.38 19

Reg. Book. on the Single } Screw } Tons { Gross }  
Twin }  
Triple }  
Quadruple }  
Waterhuizen By whom built S. Pattje Yard No. 173 When built 1938

Engines made at Cologne By whom made Humboldt-Deutzmotoren A.G. Engine No. 491020/26 When made 1938

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 350 Owners Port belonging to

Nom. Horse Power as per Rule 81,5 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trode for which vessel is intended

OIL ENGINES, &c. Type of Engines Heavy oil engine RV7M 345 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 50 kg/cm<sup>2</sup> Diameter of cylinders 280 mm Length of stroke 450 mm No. of cylinders 7 No. of cranks 7

Mean Indicated Pressure 6,6 kg/cm<sup>2</sup> Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 307,5mm Is there a bearing between each crank yes

Revolutions per minute 300 Flywheel dia. 1250 mm Weight 2600 kg Means of ignition sol. inject Kind of fuel used on test bed gas oil

Crank Shaft, { Solid forged } as per Rule } Crank pin dia. 170mm } Crank Webs } Mid. length breadth 339mm } Thickness parallel to axis }  
{ Semi built dia. of journals } as fitted } 190mm } { Mid. length thickness 70mm } Thickness around eyehole }

Flywheel Shaft, diameter as per Rule } Intermediate Shafts, diameter as per Rule } Thrust Shaft, diameter at collars as per Rule }  
as fitted } as fitted } 190mm } 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  
as fitted } 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

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines directly by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication

forced Thickness of cylinder liners 25mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
water cooled non-conducting material 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. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. one Diameter 100mm Stroke 85mm Can be overhauled while ~~at work~~ is at work yes

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 capacity 80 ltrs/min. at 1400 r.p.m.

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 tooth wheel pump  
(two stages)

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. one No. of stages two Diameters 145/60mm Stroke 85mm Driven by main engine

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

What provision is made for first Charging the Air Receivers

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule } No. }  
as fitted } Position }

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



002784-002789-0070

**AIR RECEIVERS:**—Have they been made under survey  Are reports or certificates now forwarded attached to the of this report sent to the

Is each receiver, which can be isolated, fitted with a safety valve as per Rule  Is a drain fitted at the lowest part of each receiver

Can the internal surfaces of the receivers be examined and cleaned  yes

**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.** two Total cubic capacity 2x500 ltrs. Internal diameter 450mm ✓ thickness 12mm ✓

Seamless, lap welded or riveted longitudinal joint lapwelded Material S.M.Steel Range of tensile strength 38-44 kg/mm<sup>2</sup> Working pressure by Rules \_\_\_\_\_ Actual 30 kg/cm<sup>2</sup>

**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 for Shafting 212503 25.2.35 Receivers G.O. 244 21.7.32 Separate Fuel Tanks \_\_\_\_\_

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 \_\_\_\_\_

**Identification marks on air receivers**

Nos. 1497 and 1503

LLOYD'S TEST

60 Atm.

W.P. 30 Atm.

V.S. 5.3.38.

The foregoing is a correct description,

**Humboldt-Deutzmotoren**

Aktiengesellschaft

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 6.12.37.- 5.3.- 6.5.- 11.5.- 24.5.- 17.6.- 21.6.- 22.6.- 24.6.- 25.6.- 9.7.-  
 { During erection on board vessel - - } 11.7.38.

Total No. of visits \_\_\_\_\_

Dates of Examination of principal parts—Cylinders 21.6.- 22.6. Covers 22.6.- 11.7. Pistons 11.7. Rods \_\_\_\_\_ Connecting rods 11.5.-24. 11.7.-

Crank shaft 6.12.-25.6. 11.7. Flywheel shaft \_\_\_\_\_ Thrust shaft \_\_\_\_\_ Intermediate shafts 6.5. 11.7. 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 9.7.38 on t

Crank shaft, Material S.M.Steel Identification Mark Lloyd's 12824 J.L. 6.12.37. Flywheel shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_

Thrust shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_ Intermediate shafts, Material S.M.Steel Identification Marks Lloyd's 3372 H.B.11

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 Messrs. Howthorn Leslie & Co. Yard No. Düsseldorf Report 100

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

This heavy oil engine has been constructed under special survey in accordance with the Society's Rules and Regulations as well as in accordance with the approved plan and instructions thereto. The material used in the construction is good and the workmanship is satisfactory. The engine has been tested on the Maker's test bed in the presence of the undersigned during 10 hours consecutive running under full load and 10% overload and was found to be safe working condition during these trials. After the trials all working parts of the engine have been opened out for inspection and were found in good condition. In my opinion the vessel for which this engine is intended ~~xxx~~ will be eligible for the notation + L.M.C. (with date) when the whole machinery has been fitted satisfactorily on board and tried under full working condition.

A copy of this report has been sent to Rotterdam Office.

Certificate (if required) to be sent to \_\_\_\_\_  
 (The Surveys are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee .. \$ 74 : 40.- } When applied for, 21.7.1938  
 Special ... .. \$ 74 : 40.- }  
 Donkey Boiler Fee ... .. \$ : : } When received, 24.8.1938  
 Travelling Expenses (if any) \$ 74 : 60.- }  
 Dismissed  
 No. 11508  
 1/3 of fee credited to Rotterdam

*W. Briggemann*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 2 SEP 1938**

Assigned *Lu Groninger 34*



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