

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 232

Comm. 684665.

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Date of writing Report 25.3. 1938 When handed in at Local Office 28.3. 1938 Port of Dusseldorf
 No. in Survey held at Cologne Date, First Survey 11.9.37 Last Survey 23.3. 1938
 Reg. Book. Number of Visits 14

on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ } Screw vessel Tons ^{Gross} _____ _{Net} _____
 Built at Hongkong By whom built W.S. Bailey & Co., Yard No. 291 When built 1938
 448550/55
 Engines made at Cologne By whom made Humboldt-Deutzmotoren A.G. Engine No. When made 1938
 Donkey Boilers made at By whom made Boiler No. When made
 Brake Horse Power 575 Owners Port belonging to
 Nom. Horse Power as per Rule 123 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 Trade for which vessel is intended 14 9/16 22 13/16

OIL ENGINES, &c. Type of Engines Heavy oil engine RVMS 258 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 45 kg/cm² Diameter of cylinders 370 mm Length of stroke 580 mm No. of cylinders 6 No. of cranks 6
 Mean Indicated Pressure 6,6 kg/cm² Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 491,5 mm Is there a bearing between each crank yes

Revolutions per minute 250 Flywheel dia. 1400mm Weight 3390 kg Means of ignition sol. inject and of fuel used on test bed gas oil
 Crank Shaft, { Solid forged as per Rule 219.4 Crank pin dia. 220mm Crank Webs Mid. length breadth 340 mm Thickness parallel to axis
 { Semi built dia. of journals as fitted 220 mm Mid. length thickness 115 mm shrunk Thickness around eyehole
 { All built

Flywheel Shaft, diameter as per Rule 140 Thrust Shaft, diameter at collars as per Rule 147
 as fitted Intermediate Shafts, diameter as fitted 180 mm as fitted

Tube Shaft, diameter as per Rule _____ as fitted Screw Shaft, diameter as per Rule _____ as fitted Is the { tube } shaft fitted with a continuous liner { screw }

Bronze Liners, thickness in way of bushes as per Rule _____ as fitted Thickness between bushes as per Rule _____ as fitted 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 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 31mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material water cooled
 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 130mm Stroke 120mm Can ~~be~~ be overhauled while ~~the~~ 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 capacity 57 lts/min. at 375 r.p.m.

Ballast Pumps, No. and size _____ Main engine ~~XXXXX~~ Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 tooth wheel pump
 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 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 _____
 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 65/180mm Stroke 120 mm 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 _____ as fitted Position _____
 Have the Auxiliary Engines been constructed under special survey Is a report sent herewith _____



4.B. 232.

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

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. _____ Cubic capacity of each _____ Internal diameter _____ thickness _____
Seamless, lap welded or riveted longitudinal joint _____ Material _____ Range of tensile strength _____ Working pressure _____

Starting Air Receivers, No. four Total cubic capacity 4x500 lts. Internal diameter 450 mm thickness 12mm
Seamless, lap welded or riveted longitudinal joint lapwelded Material S.M. Steel Range of tensile strength 38-44 kg/mm² Working pressure by Rules Actual 30 kg/cm²

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 187015 3.12.37. 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 _____

The foregoing is a correct description.

Humboldt-Deutzmotoren Aktiengesellschaft Manufacturer.

Dates of Survey while building
During progress of work in shops - 11.9.-20.9.-23.9.-29.12.37.- 20.1.-1.2.-2.2.-9.2.-11.2.-15.2.-15.3.-18.3.-22.3.38.
Total No. of visits _____

Dates of Examination of principal parts—Cylinders 1.2.-9.2. Covers 1.2.-2.2. Pistons 18.3. Rods _____ Connecting rods 11.9.-23.9.38.
Crank shaft 29.12.-9.2. Flywheel shaft _____ Thrust shaft 20.9.-22.3. 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 15.3. on test
Crank shaft, Material S.M. Steel Identification Mark LLOYD'S 117 W.P. 29. Flywheel shaft, Material _____ Identification Mark _____
Thrust shaft, Material S.M. Steel Identification Mark LLOYD'S 12554 J.L. 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 no If so, state name of vessel _____

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 in accordance with the approved plans and instructions thereto. The material used in the constructions 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 in safe working condition during the 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 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 conditions.
A copy of this report has been sent to Hongkong Office.

The amount of Entry Fee .. \$RM : 60.- When applied for, 1.4.1938
Special \$RM : 615.- 1/5 of the fee credited to Hongkong
Donkey Boiler Fee \$: : When received, 12.5.1938
Travelling Expenses (if any) \$RM : 60.-

Mr. Kingemann Engineer/Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 20 JAN 1939

Assigned

See Mr. J.C. Rph 8342



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