

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 1441.

Received at London Office -9 OCT 1935

Date of writing Report 1st October 1935 When handed in at Local Office 2nd October 1935 Port of Bremen
No. in Survey held at Lugolburg Date, First Survey 26th January 1935 Last Survey 25th September 1935
Reg. Book. Single on the Twin Triple Screw vessel Number of Visits 98
Built at Hamburg By whom built Deutsche Werft. P. G. Yard No. 164 When built 1935
Engines made at Lugolburg By whom made Maschinenfabrik Augsburg-Nürnberg Engine No. 681000/1070 When made 1935
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 2x2000 Owners Atlantic Tank Reederi Port belonging to Hamburg
Nom. Horse Power as per Rule 885 Is Refrigerating Machinery fitted for cargo purposes 27 1/2 Is Electric Light fitted 27 1/2
Trade for which vessel is intended 20 1/2

OIL ENGINES, &c.—Type of Engines 2x 46 1/2 x 52 1/2 2 or 4 stroke cycle 2 Single or double acting singleMaximum pressure in cylinders 55 atm Diameter of cylinders 520 mm Length of stroke 700 mm No. of cylinders 2x6 No. of cranks 2x6Mean Indicated Pressure 5.45 atm Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 680 mm Is there a bearing between each crank yesRevolutions per minute 225 Flywheel dia. 1700 mm Weight 1210 kg Means of ignition dir. ign. Kind of fuel used diesel oil in test bedCrank Shaft, dia. of journals as per Rule Crank pin dia. 320 mm Crank Webs Mid. length breadth 520 mm Thickness parallel to axis shrunk Thickness around eyehole as fittedFlywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per RuleTube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner yesBronze 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 thepropeller 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 tubeshaft If so, state type Length of Bearing in Stern Bush next to and supporting propellerPropeller, dia. 5500 Pitch No. of blades Material whether Moveable Total Developed Surface sq. feetMethod of reversing Engines directly by means of compr. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubricationThickness of cylinder liners 35 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and cylinders water cooled or lagged withnon-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 engineCooling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vesselBilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at workPumps connected to the Main Bilge Line No. and Size How drivenIs 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 arrangementsBallast Pumps, No. and size engine driven Lubricating Oil Pumps, including Spare Pump, No. and size 70 cfm/h at 400 revs.Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary BilgePumps, 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

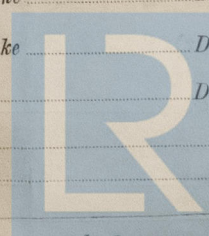
led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or CocksAre 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 lineAre 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 plateWhat pipes pass through the bunkers How are they protectedWhat 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 byAuxiliary Air Compressors, No. No. of stages Diameters Stroke Driven bySmall Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven byScavenging Air Pumps, No. 1 root blower 260 cfm/h Diameter Stroke Driven by main engineAuxiliary Engines crank shafts, diameter as per Rule No. Position

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AIR RECEIVERS:—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

High Pressure 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 for Shafting *yes*, *0109650/21.1.35* Receivers

(If not, state date of approval)

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,
Maschinenfabrik Augsburg-Nürnberg A.-G.

Manufacturer.

Dates of Survey while building

During progress of work in shops--
During erection on board vessel--
Total No. of visits

Jan 1935: 26, Feb: 12, 16, March: 7, 8, 13, 14, 15, 16, 18, 22, 23, 28, 29, 30, April: 5, 6, 8, 10, 11, 12, 13, 17, 18, 23, 24, 25, 26, 27, 29, 30, May: 2, 3, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 23, 24, 25, 29, 31, June: 1, 5, 6, 7, 8, 11, 12, 13, 14, 15, 19, 22, 26, 27, 28, 29, July: 2, 5, 6, 10, 11, 12, 13, 15, 16, 18, 19, 20, 23, 24, 25, 26, 27, August: 1, 3, 12, 13, 16, 20, 22, 23, 28, Sept: 4, 6, 7, 9, 11, 12, 13, 25

Dates of Examination of principal parts—Cylinders *12/18.7.35* Covers *12/18.7.35* Pistons *18/20.7.35* Rods *25.9.35* Connecting rods *2.7.35*
Crank shaft *22/29.6.35* Flywheel shaft *25.9.35* Thrust shaft *25.9.35* Intermediate shafts *25.9.35* Tube shaft *25.9.35*
Screw shaft *25.9.35* Propeller *25.9.35* Stern tube *25.9.35* Engine seatings *25.9.35* Engines holding down bolts *25.9.35*

Completion of fitting sea connections *LLOYD'S 4696 J. 6. 16. 3. 35* Completion of pumping arrangements *4696 J. 6. 16. 3. 35* Engines tried under working conditions *7/12/11.14. 9. 35*
Crank shaft, Material *S.M. Steel* Identification Mark *4696 J. 6. 16. 3. 35* Flywheel shaft, Material *4696 J. 6. 16. 3. 35* Identification Mark *4696 J. 6. 16. 3. 35*
Thrust shaft, Material *S.M. Steel* Identification Mark *4696 J. 6. 16. 3. 35* Intermediate shafts, Material *4696 J. 6. 16. 3. 35* Identification Marks *4696 J. 6. 16. 3. 35*
Tube shaft, Material *S.M. Steel* Identification Mark *4696 J. 6. 16. 3. 35* Screw shaft, Material *4696 J. 6. 16. 3. 35* Identification Mark *4696 J. 6. 16. 3. 35*

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. *Then heavy oil engines have been constructed under special survey in accordance with the Soc. Rules and Regulations as well as with the approved plans and instructions thereto.*

The materials used in the constructions are good and the workmanship is satisfactory. The engines have been tested on the test bench of the makers during 12 hours incl. 2 hours 10% overload and were found to be in safe working condition during these trials.

Working pressure in the cylinders not to exceed 55 atm.

In my opinion the vessel for which these engines are intended will be eligible for the notation of $\frac{1}{2}$ LMC [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 forwarded to the Hamburg Surveyors

The amount of Entry Fee .. £ *7 : 18* : When applied for, *4. 10. 1935*
 $\frac{1}{5}$ Special £ *156 : 18* :
Donkey Boiler Fee £ *— : —* : When received, *4. 11. 1935*
Travelling Expenses (if any) £ *8 : 4* : *4. 11. 1935*

Committee's Minute

Assigned

WED. 29 JAN 1936

TUE. 10 MAR 1936

See Ham. J. 6. 21754

Engineer Surveyor to Lloyd's Register of Shipping.



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