

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 1720.

Received at London Office 18 JUL 1935

Date of writing Report 16th July 1935 When handed in at Local Office 16th July 1935 Port of Bremen

No. in Survey held at Lugbrug Date, First Survey 5th April 1935 Last Survey 16th July 1935

Reg. Book. Single }
on the Twin } Screw vessel
Triple }
Quadruple }

Joseph Medall

Number of Visits 52

Tons } Gross 2087
Net 1607

Built at Newcastle on Tyne By whom built Swan, Hunter & Wigham Richardson Yard No. 1507 When built 1935

Engines made at Lugbrug By whom made Masch. fabrik Augsburg-Nürnberg Engine No. 560370 When made 1935

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

Brake Horse Power 2600/570 Owners Confessio Paper Co. Port belonging to Montreal

Nom. Horse Power as per Rule 245 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

Trade for which vessel is intended _____

OIL ENGINES, &c.—Type of Engines 2 x 520 30/42 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 60 atm Diameter of cylinders 300 mm Length of stroke 420 mm No. of cylinders 2 x 5 No. of cranks 2 x 5

Mean Indicated Pressure 5.6 atm Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 370 mm Is there a bearing between each crank yes

Revolutions per minute 375/353 Flywheel dia. 1000 mm Weight 1000 kg Means of ignition direct inj. Kind of fuel used Diesel oil in fed bed

Crank Shaft, dia. of journals as per Rule _____ as fitted 190 mm Crank pin dia. 190 mm Crank Webs Mid. length breadth 300 mm Mid. length thickness 96 mm Thickness parallel to axis _____ Thickness around eyehole _____

Flywheel Shaft, diameter as per Rule _____ as fitted _____ Intermediate Shafts, diameter as per Rule 4.76 as fitted _____ Thrust Shaft, diameter at collars as per Rule _____ as fitted 190 mm with crank shaft in one piece.

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

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 Movable _____ Total Developed Surface _____ sq. feet

Method of reversing Engines direct by comp. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication _____

Thickness of cylinder liners 20 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. 1, rotated from main engine 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 100 mm Stroke 90 mm Can one be overhauled while the other 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 _____

Ballast Pumps, No. and size _____ Power-Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1000 wheel, 9.5 in dia at 1000 revs.

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, rotated from main engine No. of stages 2 Diameters 80/70 mm Stroke 80 mm Driven by main engine

Scavenging Air Pumps, No. 1, blown off the Root type Diameter 500 mm 3/4 Stroke _____ Driven by main engine

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

W 475-0016



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?

Is the donkey boiler intended to be used for domestic purposes only

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 2110326, 6/16 22-2-35 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

State the principal additional spare gear supplied

The foregoing is a correct description
Maschinenfabrik Augsburg-Nürnberg A.G.

Manufacturer.

April: 5, 18, 23, 24, 25, 26, 27, 29, 30. May: 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 16, 23, 24, 25, 29, 31. June: 1, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 19, 22, 26, 27, 28, 29.

Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - -
 Total No. of visits

April: 5, 18, 23, 24, 25, 26, 27, 29, 30.

July: 2, 3, 4, 5, 10, 11, 12, 13, 15, 16.

Lines 24. 5. 35

Dates of Examination of principal parts—Cylinders 5/8. 6. 35 Covers 7. 6. 35 Pistons 5/7. 6. 35 Rods Connecting rods 9/7. 6. 35

Crank shaft 21. 5. 35 Flywheel shaft Thrust shaft 21. 5. 35 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 10/11/15. 9. 35

Crank shaft, Material S.M. Steel Identification Mark Lloyd's 4697/4704 J.G. Flywheel shaft, Material Identification Mark

Thrust shaft, Material with crank shaft in one piece 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

General Remarks (State quality of workmanship, opinions as to class, &c. These 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 in the shops under normal load, 10% overload and 20% overload during about 20 hours and were found to be in safe working conditions during these trials.

In my opinion the vessel for which these engines are intended will be eligible for the notation of $\frac{3}{2}$ LMC [with date] when the whole machinery has been fitted satisfactorily on board and tried under full working conditions.

Copy of this report has been sent to the Newcastle Surveyors.

This machinery has been installed on board, tried under working conditions and found satisfactory.

A. H. Kiddle

The amount of Entry Fee ... £ 64.00 : When applied for,
 4/5 Special ... £ 980.00 : 17. 7. 1935
 Test bed trials ... £ 168.00 :
 Donkey Boiler Fee ... £ 15.00 :
 Travelling Expenses (if any) £ 15.00 :
 Total received, cash
 later LOR/NWC
 12. 8. 1935

L. J. Brown
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 27 AUG 1935

Assigned See NWC. 26. 92860



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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.