

REPORT ON OIL ENGINE MACHINERY.

12 JAN 1952

Received at London Office. K I E L

Date of writing Report 19th Dec. 1951 When handed in at Local Office 19th Dec. 1951 Port of Kiel

No. in Survey held at K I E L Date, First Survey 14th August 1951 Last Survey 9th November 1951

Reg. Book. Single on the Twin Triple Quadruple Screw vessel. Yard No. 546 M.V. HENRIK DANICA

Built at Rendsburg By whom built Rendsb. Werft Nobiskrug G.m.b.H. Yard No. 546 When built 1951

Engines made at Kiel By whom made Maschinenbau Kiel Aktiengesellschaft Engine No. 10520 When made 1951

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

Brake Horse Power 750 Owners H.H. Andersen & Co. Port belonging to -

M.N. Power as per Rule 143 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -

Trade for which vessel is intended -

OIL ENGINES, &c. - Type of Engines Heavy oil (Type MSu 581) 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 48 kg/cm² Diameter of cylinders 385 mm Length of stroke 580 mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 6.75 kg/cm² Ahead Firing Order in Cylinders 1-5-3-6-2-4 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 477 mm Is there a bearing between each cranks yes Revolutions per minute 300

Flywheel dia. 1500 mm Weight 2650 kg Moment of inertia of flywheel (lbs. in² or Kg. cm²) 3780 Means of ignition comp. Kind of fuel used Diesel

Crank Shaft, dia. of journals 245 mm Crank pin dia. 240 mm Crank webs Mid. length breadth 360 mm Thickness parallel to axis -

Flywheel Shaft, diameter as per Rule - Intermediate Shafts, diameter as per Rule - Thrust Shaft, diameter at collars approved 180 mm

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

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 -

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 tube shaft -

Propeller, dia. 2120 mm Pitch - No. of blades - Material - whether moveable - Total developed surface - sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm²) - Kind of damper, if fitted friction

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced Thickness of cylinder liners - Are the cylinders fitted with safety valves yes

Are the exhaust manifolds 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 140 mm Stroke 90 mm 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 -

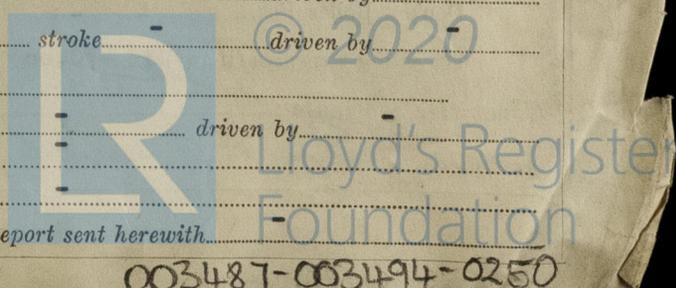
Ballast Pumps, No. and size - Power Driven Lubricating Oil Pumps, including spare pump, No. and size one at 9 m³/hr.

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 -

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes - Are the bilge suction 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 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 -



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AIR RECEIVERS:—Have they been made under survey yes State No. of report or certificate cert.

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, 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, 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 crankshaft 5/91950 and 3/11/51 Receivers - Separate fuel tanks -

(If not, state date of approval) intern. sh. 3/11/51 12/7/51

Donkey boilers - General pumping arrangements - Pumping arrangements in machinery space -

Oil fuel burning arrangements -

Have Torsional Vibration characteristics been approved yes, 3/11/51 Date of approval 3/11/51

SPARE GEAR.

Has the spare gear required by the Rules been supplied To be checked on board.

State the principal additional spare gear supplied -

-

-

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for torsional vibration characteristics.

Manufacturer MAK

Maschinenbau Kiel Aktiengesellschaft

23.10., 9.11.51

Dates of Survey while building

During progress of work in shops - 14.8., 5.9., 14.9., 26.9., 3.10., 8.10., 15.10.

During erection on board vessel - 23.10., 9.11.51

Total No. of visits 9

Dates of examination of principal parts—Cylinders 14.8., 5.9., 15.9. Covers 14.9. Pistons 26.9. Rods -- Connecting rods 26.9.

Crank shaft 14.9.51 Flywheel shaft -- Thrust shaft -- Intermediate shafts -- Tube shaft --

Screw shaft -- Propeller -- Stern tube -- Engine seatings -- Engine holding down bolts --

Completion of fitting sea connections -- Completion of pumping arrangements -- Engines tried under working conditions 9.11.51

Crank shaft, material SM steel Identification mark 20.6.51 Flywheel shaft, material -- Identification mark --

Thrust shaft, material -- Identification mark -- Intermediate shafts, material -- Identification marks --

Tube shaft, material -- Identification mark -- Screw shaft, material -- Identification mark --

Identification marks on MAK CYLINDER BLOCK LLOYD'S TEST

10 kg

No. 274 9.51

JB

per Mak Kiel in Hagen

Welded receivers, state Makers' Name --

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 --

Description of fire extinguishing apparatus fitted --

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, Speed restrictions, &c.)

This main engine has been constructed under Special Survey, in accordance with the Rules, the Secretary's letters, and approved plans. The materials and the workmanship are good. The engine has been examined during construction and under working conditions and found satisfactory and is eligible, in my opinion, for classification with the notation * LMC when satisfactorily installed in a classed vessel.

The amount of Entry Fee ... DM. 763,00 :
 Special ... £ - :
 Donkey Boiler Fee... £ - :
 Travelling Expenses (if any) DM 70,00 :
 When applied for 19
 When received 19

TUES. 18 NOV 1952

Assigned Sir F. E. Welch, rpt. Kiel 691

J. Bowman
 Engineer Surveyor to Lloyd's Register of Shipping.

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