

REPORT ON OIL ENGINE MACHINERY.

No. 15/33 A

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Date of writing Report 24 April 1939. When handed in at Local Office

Port of Amsterdam

No. in Survey held at Heengelo

Date, First Survey 15th Sept. Last Survey 10th April 1939.

Reg. Book.

Number of Visits 33.

Single
Twin
Triple
Quadruple

Screw vessel

M. 4

"PENDRECHT"

Tons { Gross
Net

Built at Rotterdam

By whom built Messrs Rot. Dr. Ing. Yard No. 112 When built 1939

Engines made at Heengelo

By whom made Mach. Fabr. Gebr. Hockel & A. Engine No. 4168 When made 1939

Donkey Boilers made at

By whom made Boiler No. When made

Brake Horse Power 3700

Owners H. J. Schoonvaart Ing. "De Oorlog" Port belonging to Rotterdam

Nom. Horse Power as per Rule 633 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended Open Sea Service

OIL ENGINES, &c.—Type of Engines 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 50 kg/cm² Diameter of cylinders 430 mm. Length of stroke 1600 mm. No. of cylinders 8 No. of cranks 8.Mean Indicated Pressure 0.6 kg/cm² Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1035 mm. Is there a bearing between each crank Yes.

Revolutions per minute 90 Flywheel dia. 3075 mm. Weight 23000 kg. Means of ignition Compression Kind of fuel used Diesel Oil.

Crank Shaft, { Solid forged dia. of journals as per Rule 520 mm. Crank pin dia. 520 mm. Crank Webs Mid. length breadth 980 mm. Thickness parallel to axis 315 mm. Mid. length thickness 315 mm. Thickness around eyehole 226 mm. All built as fitted

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted 385 mm.

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 Moveable Total Developed Surface sq. feet

Method of reversing Engines Air servo motor Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced

Thickness of cylinder liners 60-55 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water-cooled or lagged with non-conducting material Yes 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. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. Diameter Stroke 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

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 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. No. of stages Diameters Stroke Driven by

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. 2 No. blowers Diameter 170 mm. Stroke 170 mm. Driven by Main Engine

Auxiliary Engines crank shafts, diameter as per Rule as fitted 90 mm. Position

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

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W1155-0136

AIR RECEIVERS:—Have they been made under survey *Yes* State No. of Report or Certificate *See below.*
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 *by Rules*
Starting Air Receivers, No. *Two* Total cubic capacity *24 cu ft* Internal diameter *1600 mm* thickness *23 mm*
Seamless, lap welded or riveted longitudinal joint *✓* Material *Steel* Range of tensile strength *44-50 k.g. Shell plate*
41-47 k.g. end plate Working pressure *by Rules* *Actual* *25 k.g.*

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 *31/3/30-24/3/30* Receivers *22/8/30*
(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.

MACHINEFABRIEK GEBR. STOLK & Co. N.Y.

Manufacturer.

Dates of Survey while building
During progress of work in shops: *15/9-11/9-18/9; 11/10-19/10-21/10; 11/11-10/11-17/11-24/11; 11/12-8/12-15/12-20/12-30/12 1930.*
During erection on board vessel: *5/1-12/1-20/1-26/1; 12/1-9/2-14/2-18/2-23/2-25/2; 13/3-9/3-16/3-23/3-31/3; 6/4-13/4-20/4*
Total No. of visits *33.*

Dates of Examination of principal parts—Cylinders *11/9-15/9-18/9* Covers *18/12-23/12-30/12* Pistons *11/10-14/10-21/10* Rods *11/10-14/10-21/10* Connecting rods *11/10-14/10-21/10*
Crank shaft *20/1-1/2-13/4* Flywheel shaft *✓* Thrust shaft *22/9-11/11-20/11* 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 *6/1/30 on test bench*

Crank shaft, Material *Steel* Identification Mark *NE9* Flywheel shaft, Material *✓* Identification Mark *✓*

Thrust shaft, Material *Steel* Identification Mark *NE9* Intermediate shafts, Material *✓* Identification Mark *✓*

Tube shaft, Material *✓* Identification Mark *NE9* Screw shaft, Material *✓* Identification Mark *✓*

Identification Marks on Air Receivers *No 2101-2102*

LLOYD'S TEST 39 k.g.

W. P. 35 k.g.

K. K. 10-11-30.

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.)

This heavy oil engine has been constructed under special survey in accordance with the approved plans and Secretary letters. The material used in the construction was found good and workmanship satisfactory. The engine has been tested on the makers test bench under full load and was found to be in safe working condition during the trial. 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 of + L.M.C. (with date) when the whole machinery has been fitted satisfactorily on board and tried under full working condition. This engine has been shipped to Rotterdam.

The amount of Entry Fee *£ 42.00*

2/3 x 12.00 = Special *£ 8.00*

When applied for, *26.4-19.39*

Donkey Boiler Fee *£ 100.00*

Travelling Expenses (if any) *£ 154.00*

When received, *14-5-39*

Committee's Minute

Assigned

See K.E. machy rpt.

FRI 30 JUN 1939

Engineer Surveyor to Lloyd's Register of Shipping.



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