

REPORT ON OIL ENGINE MACHINERY.

No. 2991

28 JUN 1928

Date of writing Report 23rd June 1928. When handed in at Local Office

Port of Stockholm

No. in Survey held at Stockholm

Date, First Survey 24 April 1927 Last Survey 16 June 1928

on the Single
Twin
Triple
Quadruple
Screw vessel

Tons
Gross
Net

Built at By whom built Yard No. When built
Engines made at Stockholm By whom made J. & L. Bolinder's Co. Ltd. Engine No. 19072/73 When made 1928.
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 120 Owners Ordered by Messrs. James Pollock, Sons & Co. Port belonging to London
Nom. Horse Power as per Rule 34 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended

II. ENGINES, &c. Type of Engines Bolinder Oil Engine 2 or 4 strokes cycle Single or double acting
Maximum pressure in cylinders 21 kg/cm² Diameter of cylinders 330 mm. Length of stroke 340 mm. No. of cylinders 2 No. of cranks 2
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 387 mm. Is there a bearing between each crank Yes
Revolutions per minute 375 Flywheel dia. 710 mm. Weight 385 mm. Means of ignition Hot bulb Kind of fuel used Grade Oil
Crank Shaft, dia. of journals as per Rule 125 mm. Crank pin dia. 130 mm. Crank Webs Mid. length breadth 180 mm. Thickness parallel to axis
Flywheel Shaft, diameter as fitted 95 mm. Intermediate Shafts, diameter as per Rule 88.4 mm. Thickness around eyehole
Tube Shaft, diameter as fitted Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner
Bronze Liners, thickness in way of bushes as fitted Thickness between bushes 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 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 Reversing gear Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication

pumps Thickness of cylinder liners none fitted Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material 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. 1 Diameter 100 mm. Stroke 100 mm. Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size
How driven

Ballast Pumps, No. and size 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 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. none fitted 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

Scavenging Air Pumps, No. none fitted Diameter Stroke

Auxiliary Engines crank shafts, diameter as per Rule as fitted

AIR RECEIVERS:—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 Yes What means are provided for cleaning their inner surfaces mudhole (280x200 mm.)

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. none fitted 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. 1 Total cubic capacity 286 litres Internal diameter 434 mm. thickness 8 mm.

Seamless, lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 36 kg/cm² as a min. Working pressure by Rules 8.5 kg/cm²

1m. 1.27

W1233-0193

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IS A DONKEY BOILER FITTED?

PLANS. Are approved plans forwarded herewith for Shifting *E 1.7. 1927*
See Secretary's letters
(If not, state date of approval)

If so, is a report now forwarded?

Receivers *E 8.3.16*

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR *To be supplied and inspected on delivery.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops - *27/4, 2/6 1927, 4 & 25/5, 9.11 & 1/6 28.*
 During erection on board vessel -
 Total No. of visits *in shop 7*

Dates of Examination of principal parts—Cylinders *9/6 28.* Covers *9/6 28* Pistons *1/6 28* Rods *27/4, 2/6, 27/6 28.*
 Crank shaft *4/5, 1/6 28* Flywheel shaft *25/5, 1/6 28* Thrust shaft *25/5, 1/6 28* Intermediate shafts *25/5, 1/6 28* 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 *in shop 9/6 28*

Crank shaft, Material *S.M. Steel*

Identification Mark

LLOYD'S
N: 3518
A1.11.6.28A

Flywheel shaft, Material

Identification Mark

Thrust shaft, Material *S.M. Steel*

Identification Mark

LLOYD'S
N: 809
F.N.B. 25.5.28

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

Is this machinery duplicate of a previous case *Yes*

If so, state name of vessel *See Gen. report no. 2775*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*I am of opinion that this motor is of superior material and workmanship and as it has been designed and constructed under Special Survey I have respectfully to submit that it will be eligible to be classed **LMC** as soon as it has been fitted in a classed vessel to the satisfaction of the Society's Surveyors*

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

The amount of Entry Fee ... £ :
 Special Survey in Shop Tr. *273* ... £ :
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) ... £ :
 When applied for, ...
 When received, ...

Committee's Minute

Assigned

See Gen. Report No 13311

R. J. Anderson
 Acting Engineer Surveyor to Lloyd's Register of Shipping.



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