

REPORT ON OIL ENGINE MACHINERY.

No. 3009.

(Gothenburg report No 7504)

Received at London Office 1 AUG 1928

Date of writing Report 8 Aug. 1928 When handed in at Local Office 10 Port of Stockholm

No. in Survey held at Sickla, Skm. Distr. Date, First Survey 31.3.1927 Last Survey 7.8. 1928.

Reg. Book. 9/334 on the Single Twin Triple Quadruple Screw vessel "NAGARA" Number of Visits 6

Tons { Gross 6525
Net 3980

Built at Gothenburg By whom built Aktieb. Götaverken Yard No. 416 When built 1928

Aux. Stockholm By whom made Aktieb. Atlas-Diesel Engine No. 40550 When made 1928

Engines made at Stockholm By whom made Walter H. Collman & Co. Boiler No. 5062 When made 1927

Donkey Boilers made at Loughborough Owners Aktieb. Svenska Ostasiatiska Komp. Port belonging to Gothenburg

Brake Horse Power 100 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Nom. Horse Power as per Rule 25 Trade for which vessel is intended General

OIL ENGINES, &c. Type of Engines Stationary Diesel Oil Eng. 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 290 mm. Length of stroke 430 mm. No. of cylinders 2 No. of cranks 2

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 360 mm. Is there a bearing between each crank yes

Revolutions per minute 300 Flywheel dia. 1600 mm. Weight 4115 kg. Means of ignition Diesel Kind of fuel used Crude Oil

Crank Shaft, dia. of journals as per Rule 163.4 mm. Crank pin dia. 165 mm. Crank Webs Mid. length breadth see plan Thickness parallel to axis shrunk

The flywheel is fitted on the crank shaft as per Rule Thrust Shaft, diameter at collars as per Rule

Flywheel Shaft, diameter as fitted Intermediate Shafts, diameter as fitted

Tube Shaft, diameter as per Rule Screw Shaft, diameter as fitted Is the { tube { screw } 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 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 Is an approved Oil Gland or other appliance fitted at the after

If two liners are fitted, is the shaft lapped or protected between the liners Length of Bearing in Stern Bush next to and supporting propeller

end of the tube shaft Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Propeller, dia. Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication

pumps Thickness of cylinder liners 28 mm. Are the cylinders fitted with safety valves yes 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. none fitted 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

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 they fitted with Valves or Cocks

Are all Sea Connections fitted direct on the skin of the ship Are the Overboard Discharges above or below the deep water line

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Blow Off Cocks fitted with a spigot and brass covering plate

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel How are they protected

What pipes pass through the bunkers Have they been tested as per Rule

What pipes pass through the deep tanks

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. 1 No. of stages 2 Diameters 155/45 mm Stroke 180 mm. Driven by engine

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. Diameter Stroke Driven by

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 What means are provided for cleaning their inner surfaces mudhole 120 mm.

Can the internal surfaces of the receivers be examined yes

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

High Pressure Air Receivers, No. 1 Cubic capacity of each 25 litres Internal diameter 240 mm. thickness 15.5 mm. ✓²

Seamless, lap welded or riveted longitudinal joint lapwelded Material S.M. Steel Range of tensile strength 38 kg/mm² Working pressure by Rules 72 kg/cm²

Starting Air Receivers, No. 1 Total cubic capacity 100 litres Internal diameter 306 mm. thickness 18.5 mm. ✓²

Seamless, lap welded or riveted longitudinal joint seamless Material S.M. Steel Range of tensile strength 41 kg/mm² Working pressure by Rules 112 kg/cm²

04077-014082-0194

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting See Secr. letter Receivers 3/1 23;20/4 27 Separate Tanks
(If not, state date of approval) E. 22.9.27.

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR as per list, approved on the 12th February 1923, will be inspected when machinery is being fitted in ship.

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building
During progress of work in shops - - 31/3, 27/5 1927. 12/3, 9/5, 24/7, 7/8 1928.
During erection on board vessel - - -
Total No. of visits in shop 6.

Dates of Examination of principal parts—Cylinders $\frac{9}{5}$ $\frac{24}{7}$ 28 Covers $\frac{9}{5}$ $\frac{24}{7}$ 28 Pistons $\frac{24}{7}$ 28 Rods ✓ Connecting rods $\frac{24}{7}$ $\frac{27}{7}$ $\frac{24}{7}$
Crank shaft $\frac{12}{3}$ $\frac{24}{7}$ 28. Flywheel shaft Thrust shaft 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 in shop 9/5 1928.

Crank shaft, Material S.M. Steel Identification Mark LLOYD'S No. 4543 GA 12.3.28A 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

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 Skm. Report no. 2884.

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

I am of opinion, that this engine is of superior material and workmanship, and as it has been designed and constructed under special survey, I have respectfully to submit, that it be approved as auxiliary to a classed main engine.

The amount of Entry Fee ... £ : : When applied for,

Special ... £ Kr. 218:40 : 19

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ 28:67 : Sep 2r. 1928

Total £r. 247:07
Committee's Minute TUE. 14 MAY 1929

Assigned

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



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