

Rpt. 4b.

AUXILIARY REPORT ON OIL ENGINE MACHINERY.

No. 8017.

Received at London Office 24 JUN 1929

Date of writing Report 20th June 1929 When handed in at Local Office 10 Port of Copenhagen

No. in Survey held at Copenhagen Date, First Survey 26th Nov 1928 Last Survey 12th June 1929 Number of Visits 30

List

Single on the Twin Triple Quadruple } Screw vessel (MITSUI / 2.) Tons { Gross Net

Built at Yama, Japan By whom built Mitsui Bussan Kaisha Yard No. 161 When built

Auxiliary engines made at Copenhagen By whom made Maskin og Skibsbyggeri Engine No. 1663 1664 When made 1929

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

Brake Horse Power 1 1/4 - 53 1 - 110 Owners Port belonging to

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

Trade for which vessel is intended

Auxiliary Engines, &c. Type of Engines Vertical Diesel Oil Engines (Frank type Solid injection) 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 39 kg/cm2 Diameter of cylinders 310 mm Length of stroke 350 mm No. of cylinders 2 No. of cranks 2

Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 362 mm Is there a bearing between each crank No

Revolutions per minute 400 Flywheel dia. 1890 mm - 1200 mm - 2500 mm Weight 2710 kg Means of ignition Compression Kind of fuel used Cude oil flash point above 150 F

Crank Shaft, dia. of journals as per Rule 161.8 mm as fitted 170 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 2 1/2" 350 mm shrunk Thickness parallel to axis Thickness around eyehole Solid forged

Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Stern 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

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 Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication

Thickness of cylinder liners Are the cylinders fitted with safety valves 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

Boiling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Large 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

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 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

How are they protected 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

Are the arrangements 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

Are the means provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. 1 off to each engine No. of stages 2 Diameters 210 mm 176 mm 216 mm Stroke 170 mm Driven by Auxiliary engines

Other Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Refrigerating Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted Please see above

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces

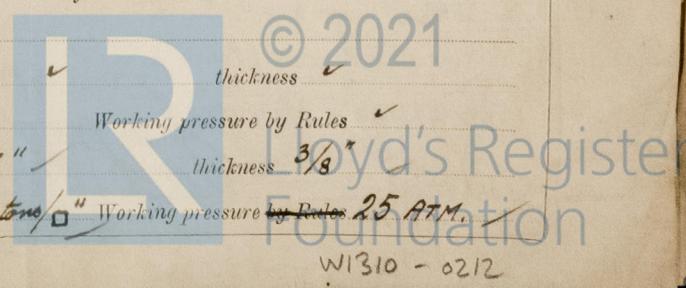
Is there a drain arrangement fitted at the lowest part of each receiver Yes

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

Working Air Receivers, No. 1 off. Total cubic capacity 250 litres Internal diameter 16" thickness 3/8"

Seamless, lap welded or riveted longitudinal joint Material 5M. Steel Range of tensile strength 31.85 tons/sq. inch Working pressure by Rules 25 ATM.



W1310 - 0212

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting *For crank shafts* Receivers Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR *as per accompanying list.*

The foregoing is a correct description,

**AKTIESELSKABET
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI**

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *26/11, 4/12, 28, 14/1, 16/1, 22/1, 24/1, 25/1, 26/1, 29/1, 30/1, 31/1, -1/2, 2/2, 14/2, 16/2, 22/2, 25/2, 26/2, 28/2, 29/2, 30/2, 31/2, 4/3, 26/3, 30/3, 8/4, 19/4, 3/5, 28/5, 12/6, 29.*
{ During erection on board vessel - - }
Total No. of visits *30*

Dates of Examination of principal parts—Cylinders *and* Covers *14/1, 22/1, 29/1, 29.* Pistons *22/1, 3/1, 29* Rods Connecting rods *26/11, 4/12, 28, 7.*
Crank shafts *26/11, 4/12, 28, 16/1, 29.* 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
Crank shaft, Material *S M Steel* Identification Mark *LLOYDS No 9804 & 9805* 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. *yes*

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

If so, state name of vessel

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

The 2 auxiliary engines as above described have been constructed under Special Survey and are in accordance with the Society's Rules, the approved plans and the requirements contained in the Secretary's letter E dated the 3rd Jan. 1929.

The material used in the construction of the engines and the air receiver have been tested as required by the Rules, either by us or as per test certificates produced.

The engines are direct coupled to a 35 KW. and a 75 KW generator respectively, and have been tested under full power working condition on the test bed in the shop and found to work satisfactorily.

The amount of Entry Fee ... £ : : When applied for.
Special ... *200.00* : : *22.6.1929.*
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : *3.8.29*

Committee's Minute

Assigned

FRI. 8 NOV 1929

See Note Pt. 1. No. 6676

A. F. Jones
Engineer Surveyor to Lloyd's Register of Shipping.



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For S.S.O.F. please see F.E. Rept n.v. "Jenssam Maru" Kob 6536

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