

REPORT ON OIL ENGINE MACHINERY.

No. 8011

22 JUN 1929

Received at London Office

Reporting Report 19th June 1929 When handed in at Local Office

Port of Copenhagen

Survey held at Copenhagen Date, First Survey 11th Aug 1928 Last Survey 1st June 1929

Number of Visits 52.

on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel (MITSUI 10.) Tons ^{Gross} _{Net}

made at ^{Tama, Japan} ~~Copenhagen~~ By whom built ^{Messrs Mitsui Bussan Kaisha} ~~Messrs Akt. Burmeister & Wain~~ Yard No. 159. When built

Boilers made at By whom made ^{Haskin of Skibstyggeri} ~~Designated MITSUI 10.~~ Engine No. 158/ When made 1929

Horse Power 1400 Owners Port belonging to

Horse Power as per Rule 271 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

for which vessel is intended

ENGINES, &c. Type of Engines ^{Vertical Diesel Oil Engine (Solid Injection) Frunk type} 2 or 4 stroke cycle 4 Single or double acting ^{Single}

Pressure in cylinders 35 kg/cm² Diameter of cylinders 550 mm = 21 5/8" Length of stroke 1000 mm = 29 3/8" No. of cylinders 6 No. of cranks 6

bearings, adjacent to the Crank, measured from inner edge to inner edge 730 mm (actual) Is there a bearing between each crank

Revolutions per minute 140 ^{Turning} Flywheel dia. 1362 mm Weight 435 kg. Means of ignition ^{air compression} Kind of fuel used ^{Low oil flash point}

Shaft, dia. of journals ^{as per Rule} 340 mm ^{as fitted} 340 mm Crank pin dia. 340 mm Crank Webs Mid. length breadth 670 mm Thickness parallel to axis 213 mm

Propeller Shaft, diameter ^{as per Rule} Intermediate Shafts, diameter ^{as per Rule} Thrust Shaft, diameter at collars ^{as per Rule} 193 mm

Screw Shaft, diameter ^{as per Rule} Is the ^{tube} ^{screw} shaft fitted with a continuous liner

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

boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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

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 ^{Direct reversible} Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Means of lubrication

Thickness of cylinder liners 38 mm Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with

ducting material ^{Lagged} If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Log Water Pumps, No. 1 off. Centrifugal - 80 tons. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Pumps worked from the Main Engines, No. 2 off. Diameter of trunk 150 mm Stroke 175 mm Can one be overhauled while the other is at work

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

10 Pumps, No. and size ^{1 off. Rotary wing pump - 150 tons.} Lubricating Oil Pumps, including Spare Pump, No. and size ^{2 off. Log wheel pumps - 30 tons each}

independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

No. and size: ^{In Machinery Spaces}

Pipes, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

Are easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

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

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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

On board vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. ^{none} No. of stages ² Diameters ^{320 mm} ^{280 mm} ^{170 mm} Stroke ^{170 mm} Driven by

Auxiliary Air Compressors, No. ^{2 off} No. of stages ² Diameters ^{210 mm} ^{176 mm} Stroke ^{216 mm} Driven by ^{Auxiliary Diesel engines}

Auxiliary Air Compressors, No. ^{1 off} No. of stages ² Diameters ^{90 mm} ^{35 mm} Stroke ^{120 mm} Driven by ^{hand}

Engines crank shafts, diameter ^{as per Rule} 161.8 mm ^{as fitted} 170 mm

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

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

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

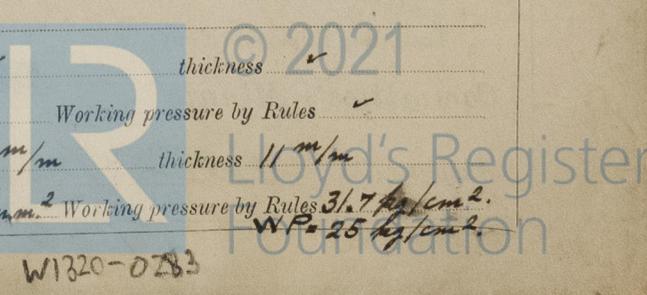
Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Are they lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Log Air Receivers, No. ^{one off} Total cubic capacity 250 Litres. Internal diameter 380 mm thickness 11 mm

Are they lap welded or riveted longitudinal joint ^{Lap welded} Material ^{S.M. Steel} Range of tensile strength 38.8 kg/mm² Working pressure by Rules 3.7 kg/cm²

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



W1320-0783

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting Crank shafts Receivers Separate Tanks
(If not, state date of approval)

Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR As per accompanying list.

The foregoing is a correct description,

BURMEISTER & WAINES MÅSKA- OG SKIBSBYGGERI

Manufacturer.

Dates of Survey while building { During progress of work in shops - 11, 14, 18 Aug. - 1, 8, 17, 20 Sept. - 3, 24, 26, 29, 30 Oct. - 1, 6, 7, 9, 10, 13, 15, 16, 22, 23, 24, 26. Nov. - 4, 10, 11, 13, 17, 18, 27, 29 Dec. 1928 - 3, 4, 11, 19 Jan. - 13, 15, 21, 27, 28 Feb. - 1, 2, 7, 11, 13, 15, 18 March - 14, 20 April - 4, 28 May - 1 June 1929.
During erection on board vessel - - -
Total No. of visits 52.

Dates of Examination of principal parts - Cylinders and Covers 20/10, 24/10, 30/10, 6/11, 18/11, 20/11, 27/11, 28/11, 29/11, 28. Pistons 30/10, 22/11, 13/12, 28. Rods 18/8, 20/9, 2/10, 7/11, 28.

Crank shaft 11/1, 15/2, 29. Flywheel shaft Thrust shaft Combined with Crank 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 B.M. Steel Identification Mark LLOYD'S N° 469, Q 9-11-28 Flywheel shaft, Material Identification Mark

Thrust shaft, Material Wills cast steel 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.)

*In accordance with the Rules for Special Survey we have examined the material and workmanship from the commencement of construction of the main and auxiliary engines with their accessories until the running test under full power working conditions on the test bed in the shop and found all good and efficient in every respect.
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 dimensions are as specified and in accordance with the Rules, the approved plans and as required in the Secretary's letter E. dated the 16th July 1928.*

Recommend the vessel to have notation in the Register Book of **LMC** - with date, and notation of OIL ENGINES when the machinery has been fitted on board under the supervision and tested to the satisfaction of the local Surveyor to this Society.

The amount of Entry Fee ... £ 58.24 : When applied for, 20.6.1929
Special ... £ 955.86 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When received, 8.8.29
FRI. 28 JUN 1929

A.C. Jørgensen. M. Clausen.
Engineer Surveyors to Lloyd's Register of Shipping.

Assigned see minute on
10th R/1 5536



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