

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 8091

488 APR 1930

Date of writing Report 25th Sept. 29 When handed in at Local Office 29 Sept. 29 Port of 8R Copenhagen
No. in Survey held at Copenhagen Date, First Survey 8R Feb. Last Survey 27th Sept. 1929
Reg. Book. *Yokohama* Number of Visits 53

Single Motor
on the Triple Screw vessel "MELBOURNE MARU"
Built at Yokohama By whom built Yokohama Dock Co. Ltd. Yard No. 174 When built 1930.
Engines made at Copenhagen By whom made Akt. Burmeister & Wain's Engine No. 1594 When made 1929
Donkey Boilers made at Lincoln By Babcock & Wilcox Ltd. Designated "OSAKA" Boiler No. When made 1929
Brake Horse Power 3000 Owners Osaka Shosen Kaisha Port belonging to Osaka
Nom. Horse Power as per Rule 489 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes
Trade for which vessel is intended Japan to Australia

IL ENGINES, &c.—Type of Engines Vertical Diesel Engines Solid injection 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 740 mm 29 1/8 Length of stroke 1500 = 59 No. of cylinders 6 No. of cranks 6
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 mm Is there a bearing between each crank yes
Revolutions per minute 112 TURNING dia. 2136 mm Weight 1950 kg Means of ignition air compression and of fuel used crude oil flash point above 150° F.
Crank Shaft, dia. of journals as per Rule 470 mm Crank pin dia. 476 mm Crank Webs Mid. length breadth 770 mm Thickness parallel to axis 310 mm
as fitted 476 mm M.d. length thickness 290 mm Thickness around eye hole 217.5 mm
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule 13.06" Thrust Shaft, diameter at collars as per Rule 14.75 mm
as fitted 13.5" as fitted 14.31" as fitted 14.75" Is the tube shaft fitted with a continuous liner yes

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 14.31" Is the tube shaft fitted with a continuous liner yes
as fitted 14.75" as fitted 14.75" as fitted 14.75"
Bronze Liners, thickness in way of bushes as per Rule .738" Thickness between bushes as per rule .55 Is the after end of the liner made watertight in the
as fitted FORD 7/8" of 13/16" as fitted 9/16" propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes

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 yes
If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after end of the tube
shaft no If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 6'-3"

Propeller, dia. 15 ft Pitch 12 ft 8 in No. of blades 4 Material P. Bronze whether Moveable yes Total Developed Surface 73 sq. feet
Method of reversing Engines Direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication
red lubrication thickness of cylinder liners 53.5 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with
non-conducting 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

Cooling Water Pumps, No. 2 off. Centrifugal - 150 tons each Is the sea suction provided with an efficient strainer which can be cleared within the vessel
Bilge Pumps worked from the Main Engines, No. 2 off. 20 ton diameter of pump 127 mm Stroke 288 mm Can one be overhauled while the other is at work yes
Pumps connected to the Main Bilge Line No. and Size One 165 mm x 230 mm stroke (Two plungers) How driven Electric motor

Ballast Pumps, No. and size 180 mm x 250 mm stroke Lubricating Oil Pumps, including Spare Pump, No. and size 2 off. Cog wheel pumps, 60 tons each
Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size:—In Machinery Spaces Eleven 2 1/2" x 3" dia
In Holds, &c. nine 2" x 3 1/2" dia.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 180 mm x 250 mm & 2 centrifugal pumps (cooling water)
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces
and from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes
Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line above
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes
That pipes pass through the bunkers yes How are they protected yes
That pipes pass through the deep tanks yes Have they been tested as per Rule yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
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 yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top of Engine Room
On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

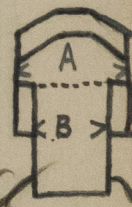
Main Air Compressors, No. none No. of stages Diameters A. B. Stroke Driven by
Auxiliary Air Compressors, No. 2 off. No. of stages 2 Diameters 210 - 176 mm Stroke 216 mm Driven by Electric motors
Small Auxiliary Air Compressors, No. 1 off. No. of stages 2 Diameters 90 - 35 mm Stroke 120 mm Driven by Hand

Exhausting Air Pumps, No. Diameter Stroke Driven by
Auxiliary Engines crank shafts, diameter as per Rule 132 mm Auxiliary Diesel oil engines 3 off. 4 Cyl. 4 P.C.S.A. - 150 B.H.P. each
as fitted 140 mm Cyl. diam. 112 mm Stroke 380 mm

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

High Pressure Air Receivers, No. Two Cubic capacity of each 15 m³ Internal diameter 6'-0" thickness 1 1/32 ends 1 3/16
Seamless, lap welded or riveted longitudinal joint Riveted Material steel Range of tensile strength 28-32 tons Working pressure by Rules 35.5 lb
Emergency Starting Air Receivers, No. 1 off. Total cubic capacity 300 Litres Internal diameter 418 mm thickness 12 mm
Seamless, lap welded or riveted longitudinal joint Lap welded Material S.M. Steel Range of tensile strength 38.1 kg/mm² Working pressure by Rules 34.4 kg/cm²
32 kg/cm²

08186-08200-0022 112



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IS A DONKEY BOILER FITTED?

PLANS. Are approved plans forwarded herewith for Shafting *Yes* *17th Sept 28* Receivers *Yes* Separate Tanks

Donkey Boilers *General Pumping Arrangements 11/6, 24/5/29* Oil Fuel Burning Arrangements

SPARE GEAR *As per accompanying list Checked aboard.*

One spare propeller shaft & two bronze blades fitted aboard.

The foregoing is a correct description,

Artesian Rebet
Burner & Wains *haskin - og* *Skibbyggeri* Manufacturer.

J. Trenching

Dates of Survey while building *During progress of work in shops - 10/3, 2/4, 6/6, 18/6, 3/7, 7/9, 24/9, 25/9, 22/10, 1/11, 7/11, 8/11, 16/11, 18/11, 28/11, 3/12, 10/12, 30/12, 16/1/2, 16/2*
During erection on board vessel - 3/12, 10/12, 14/12, 29/1, 15/1, 20/1, 23/1, 14/2, 20/2, 24/2, 28/2, 6/3, 14/3, 19/3, 28/3/20.
Total No. of visits *53* *934*

Dates of Examination of principal parts—Cylinders *and* *14/6, 12/7, 17/7, 23/7, 24/7, 13/7, 17/7, 27/7, 4/8, 28/8, 26/8, 13/9, 22/9*
21/8, 21/8, 24/8, 10/5, 8/6 Covers *8/8, 26/8, 29/8* Pistons *14/6, 14/7, 1/8* Connecting rods *17/5, 14/6, 24/7*

Crank shaft, Material *S.M.I. Steel* Identification Mark *No. 151-152* Flywheel shaft, Material *Steel* Identification Mark *LLLOYD'S*
Thrust shaft, Material *S.M.I. Steel* Identification Mark *No. 138 K* Intermediate shafts, Material *Steel* Identification Mark *LLLOYD'S*
Screw shaft, Material *S.M.I. Steel* Identification Mark *No. 138 K* Tube shaft, Material *Steel* Identification Mark *LLLOYD'S*

Completion of fitting sea connections *14/12/29* Completion of pumping arrangements *14/12/29/30* Engines tried under working conditions *29/12/29, 1/1, 15/1, 2*

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 *Yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Yes* If so, have the requirements of the Rules been complied with *Yes*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *Copenhagen Report No. 8041*

General Remarks (State quality of workmanship, opinions as to class, &c.) *In accordance with the Society's Rules for Special Survey we have examined the material and workmanship from the commencement of construction of main and auxiliary engines with their accessories until the final test under full power in condition on the test bed in the shop and found all good and satisfactory.*

The material used in the construction of the engines and the air receiver has been tested as required by the Rules, either by us, or as per test certificates produced issued by the Survey to this Society.

The dimensions are as specified and in accordance with the Rules, the approved and the requirements contained in the Secretary's letter "E" dated the 17th Sept. 1928.

The intermediate and screw shafts, plan of which was approved on 17th Sept. 1928, have not been

Recommended the vessel to have notation in the Register Book of + LMC with date and Oil En

When the machinery has been fitted on board under the supervision of and tested to the

Satisfaction of the Local Surveyors to this Society. Please see following sheet.

The amount of Entry Fee ... *£1. 72. 80* When applied for, *27. 9. 19. 29*

4/5 Special ... *£1. 14. 31. 98* When received, *27. 9. 19. 29*

Donkey Boiler Fee ... *£*

Travelling Expenses (if any) *£1. 10. 50*

Committee's Minute *FRI 2 MAY 1929*

Assigned *+ L.M.C. 3.30*

Rpt. 9a.

Port of

Continuation of Report No. 4501 dated

on the

"MELBOURNE MARU"

This machinery has now been securely fitted onboard this vessel under special survey. After completion all machinery examined under full working conditions with satisfactory results.

The machinery of this vessel is eligible in my opinion to have the notation of + L.M.C. 3-30, in the Register Book.

J. Nicholas

YOKOHAMA.	YEN.	
1/5 of FIRST ENTRY FEE.	10.00	FEE APPLIED FOR: 7-4-30. Paid 24/4/30 <i>ell</i>
1/5 of Special	418.00	
EXPENSES.	15.00.	