

## REPORT ON OIL ENGINE MACHINERY.

No. 9607.

20 JUL 1936

Date of writing Report 15-6-1936 When handed in at Local Office 25-6-1936 Port of KOBE  
No. in Survey held at TAMA Date, First Survey 6-7-35 Last Survey 30-5-1936  
Reg. Book. on the ~~Triple~~ <sup>Single</sup> Screw ~~vessel~~ MOTOR SHIP "CANBERRA MARU" Tons Gross 6477 Net 3858  
Built at TAMA By whom built MITSUI BUSSAN KAISHA Yard No. 216 When built 1936  
Engines made at TAMA By whom made MITSUI BUSSAN KAISHA Engine No. 107 When made 1936  
Boiler made at TAMA By whom made MITSUI BUSSAN KAISHA Boiler No. 129 When made 1936  
Horse Power 7,000 Owners OSAKA SHOSEN KABUSHIKI KAISHA Port belonging to OSAKA  
Horse Power as per Rule 1231 ✓ Is Refrigerating Machinery fitted for cargo purposes YES Is Electric Light fitted YES  
for which vessel is intended DRY & PERISHABLE CARGOES. 24 1/2" 55 1/8"

ENGINES, &c.—Type of Engines BURMEISTER AND WAIN 2 or 4 stroke cycle 2 Single or double acting DOUBLE  
Pressure in cylinders 45 Kg/cm<sup>2</sup> Diameter of cylinders 620 mm Length of stroke 1400 mm No. of cylinders 6 No. of cranks 6  
Diameter of exhaust pistons 350 mm (TOP) & 410-240 mm (BOTTOM) STROKE 380 mm  
Bearings, adjacent to the Crank, measured from inner edge to inner edge 946 mm Is there a bearing between each crank YES  
Revolutions per minute 110 Flywheel dia. 1975 mm Weight 2,200 kg Means of ignition COMPRESSION Kind of fuel used HEAVY OIL.  
Shaft, dia. of journals as per Rule 483 mm Crank pin dia. 485 mm Crank Webs Mid. length breadth 860 mm Thickness parallel to axis 305 mm  
as fitted 485 mm (115 mm HOLLOW) M. d. length thickness 285 mm Thickness around eye hole 232.5 mm  
BY CRANK as per Rule 424 mm Intermediate Shafts, diameter as per Rule 420 mm Thrust Shaft, diameter at collars as per Rule 445 mm  
Shaft, diameter as fitted 260 mm (PIN & JOURNAL) as fitted 420 mm \* APPROVED 23.7.35 as fitted 463 mm  
Shaft, diameter as per Rule 461 mm Screw Shaft, diameter as fitted 460 mm Is the shaft fitted with a continuous liner YES  
as fitted 460 mm \* APPROVED 23.7.35  
Liners, thickness in way of bushes as per Rule 21.44 mm Thickness between bushes as per Rule 16 mm Is the after end of the liner made watertight in the  
as fitted 24 mm as fitted 23 mm  
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 the 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  
If so, state type YES Length of Bearing in Stern Bush next to and supporting propeller 1800 mm  
Pitch 5058 mm No. of blades 4 Material MANGANESE BRONZE whether Moveable YES Total Developed Surface 9.5 sq. ft.  
Kind of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication  
Thickness of cylinder liners 42 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled lagged with  
insulating material YES If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine YES  
Suction Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES  
Pumps worked from the Main Engines, No. NONE Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓  
Is connected to the Main Bilge Line No. and Size ONE INDEPENDENT BILGE & SANITARY PUMP-15 M<sup>3</sup>/H EACH (E. MOTOR DRIVEN), ONE BILGE &  
How driven BALLAST PUMP-110 M<sup>3</sup>/H (E. MOTOR DRIVEN) & ONE FIRE & G. S. PUMP-110 M<sup>3</sup>/H (E. MOTOR DRIVEN).  
Suction Pumps, No. and size ONE, 110 M<sup>3</sup>/Hour Lubricating Oil Pumps, including Spare Pump, No. and size 2, 250 TONS/HOUR EACH.  
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 5-75 mm, ONE-75 mm (IN COFFERDUM) & 2-75 mm (IN SHAFT TUNNEL)  
Holds, &c. ONE-65 mm for NO.1 HOLD COFFERDUM, 2-75 mm for NOS. 1, 3, 4, 5 & 6 HOLDS EACH & 2-90 mm for NO.2 HOLD.  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ONE-150 mm, 2-130 mm & 2-65 mm.  
Are the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES Are the Bilge Suctions in the Machinery Spaces  
easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges YES  
Are the Sea Connections fitted direct on the skin of the ship YES 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 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  
Are the pipes pass through the bunkers YES How are they protected YES  
Are the pipes pass through the Wing tanks 2 BILGE PIPES FOR NO.6 HOLD. 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 PLATFORM  
If the vessel is a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES  
Air Compressors, No. NONE No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓  
Main Air Compressors, No. 2 No. of stages 2 Diameters H.P.-280 mm L.P.-320 mm Stroke 200 mm Driven by AUXILIARY DIESEL ENGS.  
Auxiliary Air Compressors, No. ONE No. of stages 2 Diameters H.P.-38 mm L.P.-89 mm Stroke 60 mm Driven by OIL ENGINE (4 BHP)  
Engaging Air Pumps No. ONE CAPACITY 640 M<sup>3</sup>/Min. @ 0.2 Kg/cm<sup>2</sup> air Pressure Driven by 2 SETS OF E. MOTORS (400 BHP)  
Auxiliary Engines crank shafts, diameter as per Rule 169 mm as fitted 180 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 ACCESS BY MANHOLE

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

Pressure Air Receivers, No. NONE Cubic capacity of each ✓ Internal diameter ✓ Thickness ✓

Unless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

Working Air Receivers, No. 2 Total cubic capacity 2 x 17 CUB. METERS Internal diameter 1994-2050 mm Thickness SHELL-28 mm ENDS-35 mm

Unless, lap welded or riveted longitudinal joint RIVETED Material STEEL Range of tensile strength 26-30 T/IN<sup>2</sup> 28-32 T/IN<sup>2</sup> Working pressure by Rules 25.4 Kg/cm<sup>2</sup>



IS A DONKEY BOILER FITTED? YES ✓ If so, is a report now forwarded? YES  
PLANS. Are approved plans forwarded herewith for Shafting YES Receivers 16-3-35 Separate Tanks 30-12-35  
(If not, state date of approval)  
Donkey Boilers 15-8-35 General Pumping Arrangements 27-9-35 Oil Fuel Burning Arrangements 27-9-35

SPARE GEAR ✓ IN ACCORDANCE WITH OR IN EXCESS OF THE RULE REQUIREMENTS AND THE FOLLOWING

PRINCIPAL ITEMS:-

ONE SCAVANGE AIR BOX WITH STUDS & NUTS.  
ONE SET OF THROUGH STAY BOLTS WITH NUTS FOR ONE CYLINDER.  
ONE SET OF CROSSHEAD GUIDE SHOE.  
ONE TOP EXHAUST PISTON COMPLETE.  
ONE BOTTOM EXHAUST PISTON COMPLETE.  
6 FUEL OIL PUMP COMPLETE & 6 PLUNGERS WITH BUSHES.  
ONE RING OF DOUBLE ROLLER CHAIN FOR CONNECTING MAIN AND SECONDARY CRANK SHAFTS.  
TWO BRONZE PROPELLER BLADES.

The foregoing is a correct description,

PER PRO MITSUI BUSSAN KAISHA, LTD.,

Manufacturer.

Dates of Survey while building  
During progress of work in shops-- 1935. JULY 6, AUG. 23, SEPT. 3, 10, 23, OCT. 1, 4, 15, 24, 25, NOV. 6, 11, 21, DEC. 3, 17, 23, 27.  
During erection on board vessel-- 1936. JAN. 11, 14, 20, 29, 31, FEB. 4, 10, 12, 14, 22, 27, 29, MAR. 7, 31, APR. 4, 27, 28, MAY. 7, 12.  
Total No. of visits 44.

Dates of Examination of principal parts--Cylinders 11-1-36 Covers 11-1-36 Pistons 11-1-36 Rods 23-12-35 Connecting rods 4-12-36

Crank shaft 24-12-35 Secondary crank shaft 10-1-36 Thrust shaft 27-12-35 Intermediate shafts 12-2-36 Tube shaft ✓

Screw shaft 13-2-36 Propeller 4-3-36 Stern tube 5-3-36 Engine seatings 10-4-36 Engines holding down bolts 25-3-36

Completion of fitting sea connections 8-3-36 Completion of pumping arrangements 21-5-36 Engines tried under working conditions 22-5-36

Crank shaft, Material STEEL Identification Mark R.No. 4858 24-12-35 Secondary crank shaft, Material STEEL Identification Mark R.No. 4911 10-1-36

Thrust shaft, Material STEEL Identification Mark R.No. 4876 27-12-35 Intermediate shafts, Material STEEL Identification Marks R.No. 4969 12-2-36

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material STEEL Identification Mark R.No. 4971 13-2-36

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 NO ✓ 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 "OTOWASAN MARU"

WITH EXCEPTION THAT THERE ARE NO PUMPS DRIVEN BY THE MAIN ENGINE

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

This machinery has been constructed under Special Survey in accordance with the Rules and approved plans.

The materials and workmanship are good.

On completion, the machinery was installed in the vessel in accordance with the Rules and tested under full working condition, and is eligible in my opinion for classification with the record of \*LMC 5,36 Oil Engine T.S. (CL) 5,36 + D.B. 100 lbs. per square inch.

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 ... £ 6-0-0

Special ... £ 163-8-1

Donkey Boiler Fee ... £ 15-0-0

Travelling Expenses (if any) £ :

When applied for,

29/5/1936

When received,

25.8 1936

Committee's Minute

Assigned

+ Lmc 5.36 D.B. 100  
Rt. Eng. C.L.

M. Kamakura

Engineer Surveyor to Lloyd's Register of Shipping.



© 2020

Lloyd's Register Foundation