

REPORT ON OIL ENGINE MACHINERY.

No. 9745
30 OCT 1936

Date of writing Report 12-9-1936 When handed in at Local Office 17-9-1936 Port of KOBE
 No. in Survey held at TAMA Date, First Survey 28-9-35 Last Survey 31-8-1936
 Reg. Book. Number of Visits 63.
 on the ~~Triple~~ ^{Single} Screw ~~vessel~~ MOTORSHIP "TOKYO MARU"
 Built at TAMA By whom built MITSUI BUSSAN KAISHA Yard No. 217 When built 1936
 Engines made at TAMA By whom made MITSUI BUSSAN KAISHA Engine No. 108 When made 1936
 Donkey Boilers made at TAMA By whom made MITSUI BUSSAN KAISHA Boiler No. 130 When made 1936
 Brake Horse Power 7,000 Owners SETTSU SHOSEN K. K. Port belonging to OSAKA
 Nom. Horse Power as per Rule 1,231 Is Refrigerating Machinery fitted for cargo purposes YES Is Electric Light fitted YES
 Trade for which vessel is intended DRY AND PERISHABLE CARGOES 55/8

OIL ENGINES, &c.—Type of Engines BURMEISTER AND WAIN 2 or 4 stroke cycle 2 Single or double acting DOUBLE
 Maximum pressure in cylinders 45 Kg/cm² Diameter of cylinders 620 mm Length of stroke 1,400 mm No. of cylinders 6 No. of cranks 6
 Span of 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 TURNING WHEEL dia. 1,975 mm Weight 2,200 Kgs Means of ignition COMPRESSION Kind of fuel used HEAVY OIL
 Crank 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% HOLLOW) (115% HOLLOW) M. d. length thickness 285 mm shrunk Thickness around eyehole 232.5 mm
 SECONDARY CRANK Thrust Shaft, diameter at collars as per Rule 445 mm
 as fitted 420 mm (SEE LETTER. DATED 23/7/36.) as fitted 463 mm
 Tube Shaft, diameter as per Rule 461 mm Is the ~~tube~~ shaft fitted with a continuous liner YES
 as fitted 461 mm
 Bronze Liners, thickness in way of bushes as per Rule 16 mm Thickness between bushes as fitted 23 mm Is the after end of the liner made watertight in the
 as fitted 23 mm 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
 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
 shaft If so, state type Length of Bearing in Stern Bush next to and supporting propeller 1,800 mm
 Propeller, dia. 5,330 mm Pitch 5,058 mm No. of blades 4 Material MANGANESE BRONZE Whether Moveable YES Total Developed Surface 9.5 sq. METERS
 Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication
 FORCED Thickness of cylinder liners 42 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers ~~water-cooled~~ lagged with
 non-conducting 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
 Cooling Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES
 Bilge Pumps worked from the Main Engines, No. NONE Diameter Stroke Can one be overhauled while the other is at work
 Pumps connected to the Main Bilge Line No. and Size ONE INDEPENDENT BILGE & SANITARY PUMP - 15 M³/H EACH (E. MOTOR DRIVEN), ONE BILGE &
 How driven BALLAST PUMP - 110 M³/H (E. MOTOR DRIVEN) & ONE FIRE & G.S. PUMP - 110 M³/H (E. MOTOR DRIVEN),
 Ballast Pumps, No. and size 1 @ 110 M³/H. Lubricating Oil Pumps, including Spare Pump, No. and size 2 (NO SPARE)
 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 5 - 75 mm, ONE - 75 mm (IN COFFERDAM) & 2 - 75 mm (IN SHAFT TUNNEL)
 In Holds, &c. ONE - 65 mm FOR NO. 1 HOLD COFFERDAM, 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 all the Bilge Suction pipes in Holds and Trunnel Well fitted with strum-boxes YES 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 YES
 Are all Sea Connections fitted direct on the skin of the ship YES Are they fitted with Valves or Cocks YES
 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
 What pipes pass through the bunkers NONE How are they protected
 What pipes pass through the deep tanks 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 MAIN DECK LINE
 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. NONE No. of stages Diameters Stroke Driven by
 Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters HP - 280 mm LP - 320 mm Stroke 200 mm Driven by AUX. DIESEL ENGINES
 Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters HP - 38 mm LP - 89 mm Stroke 60 mm Driven by OIL ENGINE (4 BHP)
 Scavenging Air Pumps, No. 1 (2 IMPELLORS) CAPACITY: 640 M³/min. Driven by 2 SETS OF ELECT. MOTORS
 Auxiliary Engines crank shafts, diameter as per Rule 169 mm
 as fitted 180 mm

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES
 Can 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
 High Pressure Air Receivers, No. NONE Cubic capacity of each Internal diameter thickness
 Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules
 Starting Air Receivers, No. 2 Total cubic capacity 2 x 17 cu. METER Internal diameter 1994 ~ 2050 mm thickness SHELL - 28 mm
 Seamless, lap welded or riveted longitudinal joint RIVETED Material STEEL Range of tensile strength 26 ~ 30 T/0" Working pressure by Rules 25.4 Kg/cm²
 END - 35 "

IS A DONKEY BOILER FITTED? YES

If so, is a report now forwarded? YES

PLANS. Are approved plans forwarded herewith for Shafting LONDON LETTER 23/7/36 Receivers 16-3-35 Separate Tanks 30-12-35

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 " " " " " " " "

6 FUEL OIL PUMP COMPLETE & 6 PLUNGERS WITH BUSHES.

ONE RING OF DOUBLE ROLLER CHAIN FOR CONNECTING MAIN & SECONDARY CRANK SHAFTS.

TWO BRONZE PROPELLER BLADES.

ONE TAIL SHAFT. (CL), (MARK, R No 5130 22-4-36.)

2 IMPELLERS AND ONE SHAFT FOR TURBO-BLOWER.

The foregoing is a correct description.

PER PRO MITSUI BUSSAN KAISHA, LTD.,

N. Naito.

Manufacturer.

		SUB-MANAGER SHIPBUILDING DEPT.													
Dates of Survey while building	During progress of work in shops--	<u>1935</u>	SEPT. 28.	OCT. 1. 25.	NOV. 6. 8. 21.	DEC. 23.	<u>1936</u>	JAN. 23. 31.	FEB. 4. 6. 17. 19. 20. 22. 25.	MAR. 3. 4. 5. 13.	APR. 10. 11. 14. 22. 28.	MAY 1. 2. 4. 7. 9. 12. 27.	JUN. 1. 5. 6. 9. 11. 16. 17. 25. 26. 27. 30.	JUL. 1. 4.	AUG. 1. 3. 6. 7.
	During erection on board vessel--	<u>1936</u>	JUL. 16. 24. 30.	AUG. 20. 22. 24. 31.											
	Total No. of visits	<u>63.</u>													

Dates of Examination of principal parts—Cylinders 1-5-36 Covers 1-5-36 Pistons 10-4-36 Rods 1-5-36 Connecting rods 1-5-36

Crank shaft 20-3-36 & 1-5-36 SECONDARY CRANK Thrust shaft 7-4-36 & 1-5-36 Intermediate shafts 22-7-36 Tube shaft ✓

Screw shaft 16-6-36 Propeller 16-6-36 Stern tube 29-5-36 Engine seatings 4-2-36 & 25-3-36 Engines holding down bolts 16-7-36

Completion of fitting sea connections 16-6-36 Completion of pumping arrangements 7-8-36 Engines tried under working conditions 20-8-36

Crank shaft, Material STEEL Identification Mark R No 5040 SECONDARY CRANK Thrust shaft, Material STEEL Identification Mark R No 5057

Thrust shaft, Material STEEL Identification Mark R No 5076 Intermediate shafts, Material STEEL Identification Marks R No 5075

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material STEEL Identification Mark R No 5131

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 M.S. "OTOWASAN MARU" (TAMA S. No. 211)

M.S. "CANBERRA MARU" (TAMA S. No. 216)

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

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 our opinion for classification with the record of LMC 8,36 Oil Engine, T.S. (CL) 8,36 & D.B. 100 lbs per square inch.

The amount of Entry Fee ... £ 6. : 0-0 When applied for, Aug. 31st 1936
Special ... £ 163 : 8-1
Donkey Boiler Fee ... £ 5- : 5-0 When received, Sept. 16th 1936
Air Receiver
Travelling Expenses (if any) £ 15- : 0-0

Committee's Minute TUE. 3 NOV 1936

Assigned

+ LMC 8,36
oil eng CL
S.B. 100 lbs

C. Macpherson & M. Kamakura.

Engineer Surveyor to Lloyd's Register of Shipping.



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