

t. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 8857.

21 JAN 1935

of writing Report.

19

When handed in at Local Office

19

Port of

Received at London Office

KOBE

in Survey held at

KOBE

Date, First Survey

28 - 12 - 33

Last Survey

11 - 12 - 1934.

Book.

Number of Visits

72.

Single  
Twin  
Triple  
Quadruple

on the

Screw vessel

MOTOR VESSEL

"KYOKUTO MARU."

Tons Gross 10052.  
Net 5821.

built at

KOBE.

By whom built KAWASAKI DOCKYARD Co.

Yard No. 584. When built 1934.

engines made at

KOBE.

By whom made KAWASAKI DOCKYARD Co.

Engine No. 209 When made 1934.

Boilers made at

KOBE.

By whom made KAWASAKI DOCKYARD Co.

Boiler No. ✓ When made 1934.

Indicated Horse Power

8000

Owners IINO SHOJI KABUSHIKI KAISHA.

Port belonging to NAKAMAIZURU.

Indicated Horse Power as per Rule

2115.

Is Refrigerating Machinery fitted for cargo purposes

NO.

Is Electric Light fitted YES.

Use for which vessel is intended

OIL IN BULK.

ENGINES, &c.—Type of Engines M.A.N. 8 D 20 7/120. 2 or 4 stroke cycle 2. Single or double acting DOUBLE.

Maximum pressure in cylinders 45 kg/cm<sup>2</sup>. Diameter of cylinders 700 mm. Length of stroke 1200 mm. No. of cylinders 8. No. of cranks 8.

No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 1100 mm. Is there a bearing between each crank YES.

Revolutions per minute 110. Flywheel dia. 5566 mm. Weight 5193 kg. Means of ignition COMPRESSION. Kind of fuel used HEAVY OIL.

Crank Shaft, dia. of journals as per Rule 478 mm. Crank pin dia. 525 mm. Crank Webs Mid. length breadth 850 mm. Thickness parallel to axis 330 mm.

as fitted 525 mm. Mid. length thickness 330 mm. Thickness around eyehole 235 mm.

Wheel Shaft, diameter as per Rule 478 mm. Intermediate Shafts, diameter as per Rule 427 mm. Thrust Shaft, diameter at collars as per Rule 490 mm.

as fitted 525 mm. as fitted 455 mm. as fitted 490 mm.

Propeller Shaft, diameter as per Rule 465 mm. Is the screw shaft fitted with a continuous liner YES.

as fitted 486 mm. Liners, thickness in way of bushes as per Rule 22 mm. Thickness between bushes as per rule 16.5 mm. Is the after end of the liner made watertight in the

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

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.

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

NO. If so, state type. Length of Bearing in Stern Bush next to and supporting propeller 2720.

Propeller, dia. 5500 mm. Pitch 4808 mm. No. of blades 4. Material BRONZE. whether Moveable YES. Total Developed Surface 318. sq. feet

Method of reversing Engines DIRECT. Is a governor or other arrangement fitted to prevent racing of the engine when detached YES. Means of lubrication

FORCED. Thickness of cylinder liners 40 mm. Are the cylinders fitted with safety valves YES. Are the exhaust pipes and silencers water cooled or lagged with

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.

Boiling Water Pumps, No. 3. Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES.

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 1 - 150 T/H. 1 - 120 T/H. 1 - 50 T/H. How driven STEAM. ELECTRIC. ELECTRIC.

Ballast Pumps, No. and size 1 - 150 T/H. Lubricating Oil Pumps, including Spare Pump, No. and size 2 - 75 T/H.

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 1 - 8". 1 - 5". 5 - 3 3/4" (COFFERDAM 4 - 2").

Holds, &c. FORE HOLD 2 - 3 1/2". PUMP ROOM 2 - 2 1/2". (COFFERDAM 2 - 2 1/2") PUMP ROOM 2 - 2 1/2". (COFFERDAM 2 - 2 1/2") (AFT COFFERDAM 3 - 2 1/2").

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 8". 1 - 5".

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES. 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 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.

Do all pipes pass through the bunkers. How are they protected.

Do all pipes pass through the deep tanks. 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 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

apartment to another YES. Is the Shaft Tunnel watertight. Is it fitted with a watertight door. worked from.

Is a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork.

Auxiliary Air Compressors, No. 2. No. of stages 3. Diameters 350. 295. 100 mm. Stroke 240 mm. Driven by AUX DIESEL ENGINES.

Small Auxiliary Air Compressors, No. 1. No. of stages 2. Diameters 120. 106. mm. Stroke 180 mm. Driven by EMERGENCY GENERATOR.

Exhausting Air Pumps, No. 1 - TURBO-BLOWER. CAPACITY 1050 CM<sup>3</sup>/MIN. Stroke. Driven by ELEC. MOTOR.

Auxiliary Engines crank shafts, diameter as per Rule 169.3 mm. as fitted 170. 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 STEAM.

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

High Pressure Air Receivers, No. 2. Cubic capacity of each 30 cu. m. Internal diameter 2000 mm. thickness 33.33 mm.

Seamless, lap welded or riveted longitudinal joint RIVETED. Material STEEL. Range of tensile strength 28/32 T/A. Working pressure by Rules 30 kg/cm<sup>2</sup>.

Working Air Receivers, No. 2. Total cubic capacity 30 cu. m. Internal diameter 2000 mm. thickness 33.33 mm.

Seamless, lap welded or riveted longitudinal joint RIVETED. Material STEEL. Range of tensile strength 28/32 T/A. Working pressure by Rules 30 kg/cm<sup>2</sup>.



IS A DONKEY BOILER FITTED? **YES. (THREE)** If so, is a report now forwarded? **YES.**  
PLANS. Are approved plans forwarded herewith for Shafting **GERMANY.** Receivers **22-11-33.** Separate Tanks **5-7-34.**  
Donkey Boilers **14-2-34.** General Pumping Arrangements **20-8-34.** Oil Fuel Burning Arrangements **16-8-34.**

### SPARE GEAR

✓ CYLINDER COVER COMPLETE WITH VALVES SPRINGS & FITTINGS. TOP 2 SETS. BOTTOM 2 SETS. CYLINDER LINERS. 2 SETS.  
✓ FUEL NEEDLE VALVES. TOP 8 SETS. BOTTOM 16 SETS. CYLINDER SAFETY VALVES. 2 TOP. 2 BOTTOM.  
✓ PISTON AND ROD COMPLETE. 2 SETS. SCREW SHAFT. ONE.  
✓ TELESCOPIC COOLING PIPES. SET FOR 1 PISTON. THRUST COLLAR PADS. ONE SET.  
✓ CAM SHAFT DRIVING SKEN WHEELS. 1 SET. PROPELLER BLADE. ONE.  
✓ CYLINDER COVER STUDS & NUTS. SET FOR ONE CYLINDER. ✓ TURBO BLOWER IMPELLER ONE SHAFT ONE.  
✓ CROSSHEAD BEARING BOLTS & NUTS. SET FOR ONE CYLINDER. ✓ FUEL PUMPS. 2.  
✓ CRANKPIN BEARING BOLTS & NUTS. SET FOR ONE CRANK. ✓ BILGE PUMP IMPELLER SHAFT & BEARING. 1.  
✓ CRANKSHAFT COUPLING BOLTS & NUTS. 1 SET. ✓ DAILY SUPPLY FUEL PUMP. 1 COMPLETE.  
✓ INTERMEDIATE SHAFT COUPLING BOLTS & NUTS. 1 SET. ✓ SOLID DRAWN STEEL PIPES. 13 LENGTHS.  
✓ MAIN BEARING BOLTS & NUTS. 1 SET.

The foregoing is a correct description,

*Toshiko Chuo Kawasaki Dockyard* Manufacturer.

Dates of Survey while building  
During progress of work in shops --  
During erection on board vessel --  
Total No. of visits **72.**

Dates of Examination of principal parts—Cylinders **11-8-34** Covers **11-8-34** Pistons **11-8-34** Rods **11-8-34** Connecting rods **11-8-34**  
Crank shaft **25-10-34** Flywheel shaft **20-7-34** Thrust shaft **20-7-34** Intermediate shafts **3-10-34** Tube shaft ✓  
Screw shaft **3-9-34** Propeller **17-11-34** Stern tube **3-10-34** Engine seatings **15-10-34** Engines holding down bolts **1-11-34**  
Completion of fitting sea connections **9-10-34** Completion of pumping arrangements **15-11-34** Engines tried under working conditions **4-12-34**  
Crank shaft, Material **STEEL** Identification Mark **MB 10187** Flywheel shaft, Material **STEEL** Identification Mark **LRN 3980A. 16**  
Thrust shaft, Material **STEEL** Identification Mark **LRN 3980B. 16/3/34** Intermediate shafts, Material **STEEL** Identification Marks **LRN 4034. 11**  
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material **STEEL** Identification Mark **LRN 3898. 30**

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 **OIL TANKER.** 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 **"TORA MARU"**

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 efficiently installed in the vessel, and tested under full working conditions, and is eligible in my opinion for classification with the record of LMC 12.34, TB (CL) 12.34 and 3 D.B. 178 LBS/□.*

The amount of Entry Fee ... £ **6 : 0 :** When applied for,  
Special ... £ **191 : 1 : 10 1/2** Dec 17<sup>th</sup> 1934  
Donkey Boiler Fee ... £ **31 : 19 : 0** When received,  
AIR RECEIPTS  
Travelling Expenses (if any) £ **15 : 15 : 0** Dec 19<sup>th</sup> 1934

Committee's Minute

FRI. 25 JAN 1935

Assigned *+ Lmc 12.34 3 D.B. - 178 lbs*  
*Ch Oil. Inf.*

*W E Munro*  
Engineer Surveyor to Lloyd's Register of Shipping.



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