

# REPORT ON OIL ENGINE MACHINERY.

No. 8981  
11 APR 1935

Received at London Office

Date of writing Report 19... When handed in at Local Office 19... Port of **KOBE.**  
No. in Survey held at **KOBE & HARIMA.** Date, First Survey **12-2-34.** Last Survey **27-2-1935.**  
Reg. Book. Number of Visits **86.**

on the <sup>Single</sup> ~~Triple~~ ~~Quadruple~~ Screw vessel

## "KONGO MARU."

Tons { Gross **7061.**  
Net **3761.**

at **HARIMA.** By whom built **HARIMA S.B. & ENG CO LTD.** Yard No. **205** When built **1935**  
made at **KOBE.** By whom made **KAWASAKI DOCKYARD CO LTD.** Engine No. **1600** When made **1935**  
Boilers made at **HARIMA.** By whom made **HARIMA S.B. & ENG CO LTD.** Boiler No. When made **1935.**  
Horse Power **3600** Owners **KOKUSAI KISEN KUBUSHIKI KAISHA** Port belonging to **TOKIO.**  
Horse Power as per Rule **2115.** Is Refrigerating Machinery fitted for cargo purposes **NO.** Is Electric Light fitted **YES.**  
for which vessel is intended **ALL SEAS.** **27th** **47th**

**ENGINES, &c.**—Type of Engines **MAN. 8 OZU. 70/120.** 2 or 4 stroke cycle **2.** Single or double acting **DOUBLE.**  
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.**  
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. **2566 mm.** Weight **6082 kgs.** Means of ignition **COMPRESSION.** Kind of fuel used **HEAVY OIL.**  
Shaft, dia. of journals as per Rule **478 mm.** as fitted **525 mm.** Crank pin dia. **525 mm.** Crank Webs Mid. length breadth **850 mm.** Thickness parallel to axis **330 mm.**  
as fitted **525 mm.** M d. length thickness **330 mm.** shrunk Thickness around eye-hole **235 mm.**  
Propeller Shaft, diameter as per Rule **425 mm.** as fitted **432 mm.** Thrust Shaft, diameter at collars as per Rule **490 mm.**  
as fitted **525 mm.** Intermediate Shafts, diameter as per Rule **465 mm.** as fitted **475 mm.** Is the screw shaft fitted with a continuous liner **YES.**  
Screw Shaft, diameter as per Rule **465 mm.** as fitted **475 mm.** Thickness between bushes as per Rule **16.6.** as fitted **20 mm.** Is the after end of the liner made watertight in the 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 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 **YES.**  
If so, state type **5770?** Length of Bearing in Stern Bush next to and supporting propeller **2140 mm.**  
Pitch **4860** No. of blades **4.** Material **BRONZE** whether Moveable **YES.** Total Developed Surface **986** sq. feet  
of reversing Engines **DIRECT.** Is a governor or other arrangement fitted to prevent racing of the engine when detached **YES.** Means of lubrication **LAGGED.** 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 insulating 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 **YES.**

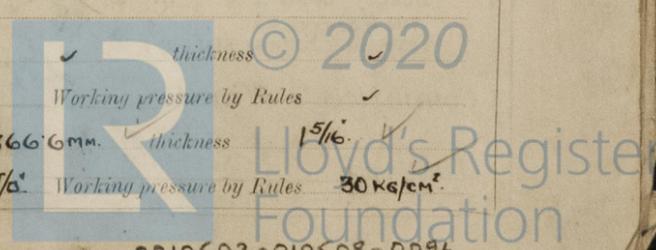
**Water Pumps, No. 3.** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **YES.**  
Pumps worked from the Main Engines, No. **3.** Diameter **250 mm.** Stroke **100 mm.** Can one be overhauled while the other is at work **YES.**  
connected to the Main Bilge Line { No. and Size **1 - 250 T/H. 1 - 100 T/H. 1 - 30 T/H.**  
How driven **ELECTRIC MOTOR.**  
Pumps, No. and size **1 - 250 T/H.** Lubricating Oil Pumps, including Spare Pump, No. and size **2 - 75 m<sup>3</sup>/h.**  
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 **(2 - 200 mm.) 2 - 140 mm. 6 - 90 mm. (3 - 65 mm COFFERDAM) 1 - 100 mm.** Some of these are independent.  
No. 1. **2 - 90 mm.** No. 2. **2 - 90 mm.** No. 3. **2 - 90 mm.** No. 4. (DEEPTANKS) **4 - 120 mm. 2 - 90 mm COFFERDAM** No. 5. **2 - 90 mm.** No. 6. **2 - 90 mm.**  
TUNNEL **1 - 90 mm.** TUNNEL WELL **1 - 90 mm.**  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **2 - 140 mm. 2 - 90 mm. 1 - 100 mm.**  
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.**  
Sea Connections fitted direct on the skin of the ship **YES.** Are they fitted with Valves or Cocks **BOTH.**  
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 **BELOW.**  
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.**  
How are they protected **YES.**  
Have they been tested as per Rule **YES.**  
Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **YES.**  
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 **DECK.**  
Means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **YES.**

**Air Compressors, No. 2.** No. of stages **2.** Diameters **240 x 310 mm.** Stroke **180 mm.** Driven by **AUX. DIESEL GENERATOR.**  
**Auxiliary Air Compressors, No. 1.** No. of stages **1.** Diameters **240 x 310 mm.** Stroke **180 mm.** Driven by **ELECTRIC MOTOR.**  
**Blowing Air Pumps, No. 1. TURBO-BLOWER.** Diameter **167.3 mm.** Stroke **170 mm.** Driven by **ELECTRIC MOTOR.**  
**Refrigerating Engines crank shafts, diameter as per Rule 167.3 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 **30.78 m<sup>3</sup>.** Internal diameter **1866 mm.** thickness **15/16.**  
Seamless, lap welded or riveted longitudinal joint **RIVETED.** Material **STEEL.** Range of tensile strength **28-32 T/0.** Working pressure by Rules **30 kg/cm<sup>2</sup>.**  
**Working Air Receivers, No. 2.** Total cubic capacity **30.78 m<sup>3</sup>.** Internal diameter **1866 mm.** thickness **15/16.** Working pressure by Rules **30 kg/cm<sup>2</sup>.**



Vertical text on the left margin: "This Certificate is valid only if the vessel is entered in the Lloyd's Register of Shipping..."



IS A DONKEY BOILER FITTED? YES If so, is a report now forwarded? YES  
 PLANS. Are approved plans forwarded herewith for Shafting MADE IN GERMANY. Receivers 11-7-34. Separate Tanks 14-4-33.  
 (If not, state date of approval)  
 Donkey Boilers 27-6-34. General Pumping Arrangements 13-6-34. Oil Fuel Burning Arrangements ✓.

SPARE GEAR

CYLINDER COVER COMPLETE WITH VALVES SPRINGS & FITTINGS. TOP 2SETS. BOTTOM 2SETS. CYLINDER LINERS. 2SETS.  
 FUEL NEEDLE VALVES. TOP 24SETS. BOTTOM 32SETS. CYLINDER SAFETY VALVES. 3TOP 3BOTTOM.  
 PISTON & ROD COMPLETE 2SETS. SCREW SHAFT. ONE.  
 TELESCOPIC COOLING PIPES. SET FOR 1PISTON. THRUST COLLAR PADS. 1SET.  
 CAM SHAFT DRIVING SKEN WHEELS. 1SET. PROPELLER. ONE.  
 CYLINDER COVER STUDS & NUTS. 2SETS. TURBO BLOWER IMPELLER ONE, SHAFT ON  
 CROSSHEAD BRASSES BOLTS & NUTS 2SETS. FUEL PUMPS. COMPLETE SET FOR 4CYLINDERS  
 CRANKPIN BRASSES BOLTS & NUTS 1SET. STARTING VALVES 4SETS.  
 CRANKSHAFT COUPLING BOLTS & NUTS 1SET. SOLID DRAWN STEEL PIPES.  
 INTERMEDIATE SHAFT COUPLING BOLTS & NUTS 1SET.  
 MAIN BEARING BRASSES. BOLTS & NUTS 1SET.

The foregoing is a correct description.  
 THE HARIMA SHIP-BUILDING AND ENGINEERING CO., LTD.  
*M. Hirata* Manufacturer.

Dates of Survey while building  
 During progress of work in shops - FEB/34. 12.14.19. MAR/34. 6.10.12. 22.30. APR/34. 7.11.16. 20.25.30. MAY/34. 9.14.15.17.24.28. JUN/34. 4.11.15.19.22. JUL/34. 4. AUG/34. 1.11.14. 21. 23.27.30. SEP/34. 1.4.8.10.13.14.17.19.26.28. OCT/34. 3.6.8.10.11.12.16.18.20.26.27.29.31. NOV/34. 2.5.10.13.16.17.20.27.28.30. DEC/34. 5.7.1. JAN/35. 10. FEB/35. 6.16.27.  
 During erection on board vessel - DEC 3<sup>rd</sup>/34. JAN/35. 21<sup>st</sup>, 28<sup>th</sup>. FEB 21<sup>st</sup>, 25<sup>th</sup>.  
 Total No. of visits 85.

Dates of Examination of principal parts - Cylinders 2-10-34 Covers 10-11-34 Pistons 31-10-34 Rods 25-10-34 Connecting rods 1-7-34  
 Crank shaft 11-8-34 Flywheel shaft 11-8-34 Thrust shaft 11-8-34 Intermediate shafts 25-9-34 Tube shaft 28-11-34  
 Screw shafts 15-6-34 Propeller 6-9-34 Stern tube 13-11-34 Engine seatings 4-10-34 Engines holding down bolts 9-2-35  
 One spare 25-1-35  
 Completion of fitting sea connections 3-12-34 Completion of pumping arrangements 10-2-35 Engines tried under working conditions 21-2-35  
 Crank shaft, Material STEEL Identification Mark MB. 10307 Flywheel shaft, Material LRN° 4015A Identification Mark STEEL  
 Thrust shaft, Material STEEL Identification Mark LRN° 4015B Intermediate shafts, Material Steel Identification Marks 4145, 4149, 4172, all  
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material Steel with CL. Identification Mark R NO. 4258 CH 16  
 spare " 4289 "

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 "KYOKUTO 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 our opinion for classification with the record of ✠ LMC 3, 35 OIL ENGINE. DB. 100 LBS. PER SQUARE INCH AND TS (CL) 3, 35.

The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 6 : 0 : 0 : When applied for, 19/3/1935  
 Special ... £ 152 : 17 : 6 : When received, 23/3/1935  
 INSTALLATION - Donkey Boiler Fee ... £ 38 : 4 : 4 :  
 AIR RECEIVERS - Travelling Expenses (if any) £ 15 : 15 : 0 :  
 Committee's Minute FRI. 26 APR 1935  
 Assigned to Lmb 2. 35 Oil Oil  
DB-100K ch

*A. O. Munro*  
 Engineer Surveyor to Lloyd's Register of Shipping.  
 FRI. 17 MAY 1935  
 FRI. 20 SEP 1935  
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