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## REPORT ON OIL ENGINE MACHINERY.

YKA No. 4588.

No. 1243.

4b.

22nd Sept 1930.

22/9/30

Received at London Office

23 OCT 1930

Writing Report 21st March 1930 When handed in at Local Office

1st March 1930 Ports of Bremen &amp; Yokohama

Date, First Survey 1st June 29

Last Survey 20th March 1930

Number of Visits 68+49.

Survey held at Augsburg &amp; Yokohama

Single  
on the Twin  
Triple  
Quadruple  
Motor  
Screw Vessel

"KWANTO MARU"

Tons  
Gross 8601  
Net 5195

Yokohama

By whom built Yokohama Dock Yard

Yard No. 179 When built 1929/30

made at Augsburg

By whom made Masch'fabrik Augsburg-Nürnberg

Engine No. 330350 When made 1929/30

Boilers made at Yokohama

By whom made Yokohama Dock Co. Ltd

Boiler No. 179 When made 1930.

Horse Power 2x3750

Owners Kishimoto Kisen Kaisha

Port belonging to Osaka &amp; Kobe

Horse Power as per Rule 2350

Is Refrigerating Machinery fitted for cargo purposes yes

Is Electric Light fitted yes

for which vessel is intended Ocean going.

ENGINES, &amp;c.—Type of Engines 2x262x60/90 2 or 4 stroke cycle 2 Single or double acting double

pressure in cylinders 45 atm Diameter of cylinders 600 mm Length of stroke 900 mm No. of cylinders 2x6 No. of cranks 2x6

bearings, adjacent to the Crank, measured from inner edge to inner edge 855 mm Is there a bearing between each crank yes

revs per minute 130 Flywheel dia. 3100 mm Weight 3400 kg Means of ignition solid injection Kind of fuel used Minioil

shaft, dia. of journals as per Rule 420 mm Crank pin dia. 420 mm Crank Webs Mid. length breadth 80 mm Thickness parallel to axis

3-THROW as fitted 420 mm Mid. length thickness 235 mm shrunk Thickness around eyehole

Shaft, diameter as per Rule Intermediate Shafts, diameter as fitted 362 mm Thrust Shaft, diameter at collars as fitted 380 mm

shaft, diameter as per Rule Screw Shaft, diameter as fitted 410 mm Is the screw shaft fitted with a continuous liner yes

liners, thickness in way of bushes as per Rule 21 mm Thickness between bushes as fitted 19 mm Is the after end of the liner made watertight in the

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes

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

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 Length of Bearing in Stern Bush next to and supporting propeller 6'-1 1/4"

dia. 14'-9" Pitch 13'-2" No. of blades 4 Material M. Bronze whether Moveable yes Total Developed Surface 44 sq. feet

reversing Engines directly, wipr-air Is a governor or other arrangement fitted to prevent racing of the engine when declutched governor Means of lubrication

Thickness of cylinder liners 40 mm Are the cylinders fitted with safety valves yes, 2 Are the exhaust pipes and silencers water cooled or lagged with

material water cooled 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. 2x2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work yes

connected to the Main Bilge Line No. and Size One 1.5 T/Hr. Two 1.0 T/Hr. One 4.50 T/Hr. (Emergency only.)

How driven Electric motors.

Pumps, No. and size One 110 tons/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 2x74 in<sup>3</sup>/hr, 50 in<sup>3</sup> height.

Independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

and size:—In Machinery Spaces 3-3 1/2", 2-2 1/2", 4-2", One 11" 2x11"

3rd exhausters 1-2" nos. 1, 2, 3 &amp; 4 holds each 2-3 1/2" nos. 4 &amp; 6 holds each 2-3" Deep tanks each 1-4" (bilge or ballast suction).

at Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 11" 1x11"

Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces

by accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes.

Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Rock.

are 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

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

pass through the bunkers yes How are they protected yes

pass through the deep tanks yes Have they been tested as per Rule yes

Pumps, 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

to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top of engine room

Vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork yes

Compressors, No. No. of stages Diameters Stroke Driven by

Air Compressors, No. 2 No. of stages 3 Diameters 360/305/105 mm Stroke 250 mm Driven by electric motor

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 100/35 Stroke 100 Driven by Diesel engine

Air Pumps, No. 3 Turbo blowers Diameter Stroke Driven by

Engines crank shafts, diameter as per Rule 170 mm

CEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes

Internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces bottom opening

Arrangement fitted at the lowest part of each receiver yes

Pure Air Receivers, No. 2 Cubic capacity of each 15 m<sup>3</sup> Internal diameter 1800 mm thickness 1 1/2" & 1 3/8"

welded or riveted longitudinal joint riveted Material steel Range of tensile strength 26-32 Working pressure by Rules 4.96 lbs.

Receivers, No. 1 for aux. engines Total cubic capacity 400 lb Internal diameter 405 mm thickness 1.35 mm

welded or riveted longitudinal joint seamless Material S. M. Steel Range of tensile strength 44-50 Working pressure by Rules 3.0 atm



If so, is a report now forwarded? Yes

Receivers See Kobe. 22/10/29. Separate Tanks 24/1/30.

General Pumping Arrangements Kobe. 24/1/30.

Oil Fuel Burning Arrangements.....24/1/30.

SPARE GEAR In accordance with the Societys Rules and Regulations

*The foregoing is a correct description,*

J. Tsuchiya *Manufacturer.*

June 1, 3, 4, 10, 14, 20, 25, 27, July 27, August 2, 5, Sept. 2, 3, 4, Oct. 7, 14, 19, 23, 31, Nov. 5, 6, 13, 25, 26, 30, Decemb. 2, 3, 4, 5, 7, 12, 18, 19, 23, 24, 30, 31, January 2, 3, 4, 8, 9, 10, 11, 13, 20, 21, 23, 24, 25, Feb. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, March 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, April 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, May 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, June 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, July 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, August 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, September 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, October 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, November 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, December 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1930.

Dates of Examination of principal parts—Cylinders <sup>lines 30.11.29</sup> <sup>12/23/24/30.12.29</sup> <sup>23/24.12.29</sup> <sup>9/10.13.1.30</sup> Covers <sup>3/4/10/11/13/8/2</sup> <sup>5.30</sup> Pistons <sup>26/11/12/23.12.29</sup> Rods <sup>23.12.29</sup> Connecting rods <sup>24.</sup>  
 Crank shaft <sup>30.12.29</sup> Flywheel shaft <sup>and</sup> Thrust shafts <sup>25.10.29</sup> Intermediate shafts <sup>27/31/3/14/26/14/23/30</sup> <sup>13.13.14/1.15/5.15/6</sup> Tube shaft <sup>23/30</sup> ✓

Crank shaft  $30 \frac{1}{2} \times 29$  Flywheel shaft and Thrust shafts  $25 \frac{1}{2} \times 29$  Intermediate shafts  $27 \frac{3}{4} \times 31 \frac{3}{4}$ ,  $31 \frac{1}{4} \times 34 \frac{1}{4}$ ,  $34 \frac{1}{4} \times 37 \frac{1}{4}$ ,  $37 \frac{1}{4} \times 40 \frac{1}{4}$  Tube shaft  $23 \frac{3}{4} \times 30$  ✓

Screw shaft  $21 \frac{1}{4} \times 20 \frac{1}{8}$ ,  $18 \frac{1}{8} \times 30$  Propeller  $21 \frac{1}{4} \times 18 \frac{1}{8}$ ,  $20 \frac{1}{8} \times 30$  Stern tube  $14 \frac{1}{8} \times 17 \frac{1}{4}$ ,  $21 \frac{1}{4} \times 22 \frac{1}{4}$  Engine seatings  $26 \frac{1}{4} \times 20 \frac{1}{8}$ ,  $9 \frac{1}{4} \times 24 \frac{1}{8}$  Engines holding down bolts  $24 \frac{1}{4} \times 27$

Completion of fitting sea connections 26/4/30 Completion of pumping arrangements 23-8-30 Engines tried under working conditions 7/9

Crank shaft, Material	S. M. Steel	Identification Mark	LL0YD'S 3627/22 V.S 27.29	Flywheel shaft, Material	Steel	Identification Mark	LL0YD'S 3627/22 V.S 27.29
Flywheel and Thrust shaft, Material	S. M. Steel	Identification Mark	LL0YD'S 3627/22 V.S 27.29	Intermediate shafts, Material	Steel	Identification Marks	LL0YD'S 3627/22 V.S 27.29
Screw							
Pace shaft, Material	Steel	Identification Mark	LL0YD'S 3627/22 V.S 27.29	Screw shaft, Material	Steel	Identification Mark	LL0YD'S 3627/22 V.S 27.29

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.....

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 no If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *These Diesel engines and their accessories have been*  
*tested under special survey in accordance with the Soc. Rules and Regulations as well as with the approved pla*  
*instructions thereto. The materials used in the constructions are good and the workmanship is satisfactory. The en*  
*been tested under full working conditions during several hours on the makers test bed with satisfactory result and were*  
*be in safe working conditions*

In my opinion the vessel for which these engines are intended will be eligible for the notation  $\dagger$  L.M.C. (with date) engines and their accessories have been satisfactorily fitted on board. Max. working pressure not to exceed 45 atm.

For identification the cylinder jackets have been stamped:-

LLOYD'S TEST Given No 703 V.S. 23.12.29

2 crankshafts for Diesel engines driving auxiliary machinery are tested by the germ. Lloyd. (Please see letter 10<sup>th</sup> July 1929).

Yokohama. The machinery of this vessel has been fitted onboard under Special Survey. Materials good. On completion all machinery tried under full working conditions with satisfactory results. Machinery is eligible in my opinion for the notation  $\Delta^D \Delta$  LMC. 9-30 in the Register Book.

The amount of Entry Fee	4/5..	£ 4	:	16	:	0	When applied for, 1/11/30	YOKOHAMA FEES. YEN. 12.00
Special	4/5...	£127	:	0	:	0	25.3.1930	" 602.00
Donkey Boiler Fee	...	£	:	:	:	:	When received,	" 63.00
Travelling Expenses (if any)		£ 4	:	0	:	0	10.5.30	SUNDAY FEE 20.00 " 31.00

## Committee's Minute

*Assigned*

FRI. 31 OCT 1930

+ L. MC. 9. 30

Oil Eng. L.R. 100 lb.

C. L.

80

**LR**

**CERTIFICATE WRITTEN**

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Foundation