

Rpt. 4b

## REPORT ON OIL ENGINE MACHINERY.

No. 757  
29 DEC 1930

Received at London Office

9th Dec. 30 Port of NAGASAKI.

Date of writing Report 9th Dec. 30 When handed in at Local Office

Date, First Survey 1st Nov. 1929. Last Survey 28th Nov. 1930.

No. in Survey held at NAGASAKI.  
Reg. Book.

Number of Visits 201.

90387 on the Twin Screw vessel "HOKUROKU MARU".  
in Sup. Triple QuadrupleTons Gross 8,365.28  
Net 5,046.44

uilt at Nagasaki. By whom built Mitsubishi Zosen Kaisha, Ltd. Yard No. 474 When built 1930  
Engines made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Engine No. 474 When made 1930  
Key Boilers made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 474 When made 1930  
Horse Power 7,200. Owners Osaka Shosen Kabushiki Kaisha. Port belonging to Osaka.  
Horse Power as per Rule 1,495 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes  
de for which vessel is intended Japan - New York.

ENGINES, &amp;c.—Type of Engines Mitsubishi-Sulzer Diesel Engine 2 or 4 stroke cycle 2 Single or double acting Single

Mean pressure in cylinders 40 Kg/cm<sup>2</sup> Diameter of cylinders 680 m/m 26 3/4 Length of stroke 1200 m/m No. of cylinders 12 No. of cranks 12

of bearings, adjacent to the Crank, measured from inner edge to inner edge 930 m/m Is there a bearing between each crank Yes

Revolutions per minute 120 Flywheel dia. 2200 m/m Weight 7800 Kg. Means of ignition Compression Temp. due to Kind of fuel used Heavy fuel oil.

Crank Shaft, dia. of journals as per Rule 457.3 m/m as fitted 470 Crank pin dia. 470 m/m Crank Webs Mid. length breadth 620 m/m Mid. length thickness 260 " Thickness parallel to axis / Thickness around eye-hole /

Main Shaft, diameter as per Rule 457.3 m/m as fitted 470 Intermediate Shafts, diameter as per Rule 338.4 m/m as fitted 350 Thrust Shaft, diameter at collars as per Rule 457.3 m/m as fitted 470

Screw Shaft, diameter as per Rule 368.5 m/m as fitted 380 Is the screw shaft fitted with a continuous liner Yes

Liners, thickness in way of bushes as per Rule 18.8 m/m as fitted 22 Thickness between bushes as per rule 14.1 m/m as fitted 16 Is the after end of the liner made watertight in the

er boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner /

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 /

liners are fitted, is the shaft lapped or protected between the liners / Is an approved Oil Gland or other appliance fitted at the after

the tube shaft Length of Bearing in Stern Bush next to and supporting propeller 1520 m/m

Propeller, dia. 14'-0" Pitch 14'-9" No. of blades 4 Material Bronze whether Moveable Yes Total Developed Surface 48.3 sq. feet

Method 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 top of cylinder liners 53 m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

lubricating 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 /

Water Pumps, No. 2 @ 300 M<sup>3</sup>/hr for Cylinders 2 @ 65 " for Pistons. 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 /

connected to the Main Bilge Line No. and Size 2 @ 110 M<sup>3</sup>/hr. 1 @ 30 M<sup>3</sup>/hr. How driven Electric motor.Pumps, No. and size 1 @ 110 M<sup>3</sup>/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 1 @ 52 M<sup>3</sup>/hr for Bearing. One of each- Spare.

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

No. and size:—In Machinery Spaces 4 @ 3 1/2" 2 @ 2" Cofferdams 1 each @ 2".

Pipes, &amp;c. No. 1- 2 @ 3" No. 2- 2 @ 3" No. 3- 2 @ 3" No. 4- 1 @ 3" No. 5- 1 @ 3" No. 6- 1 @ 3" Tunnel well 1 @ 2 1/2"

ndent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 5 1/2" 1 @ 2 1/2" 1 @ 8" (Emergency).

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 Both

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

es pass through the bunkers. How are they protected /

es pass through the deep tanks. Have they been tested as per Rule /

pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

ngement 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

nt to another. Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper Deck

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

Compressors, No. 2 No. of stages 3 Diameters 570/480/150 m/m Stroke 600 m/m Driven by Main Engine

Air Compressors, No. 2 No. of stages 3 Diameters 340/295/75 m/m Stroke 180 m/m Driven by Elec. Motor

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 110/35 m/m Stroke 120 m/m Driven by Oil Engine

g Air Pumps, No. / Diameter / Stroke / Driven by Elec. Motor.

Blower. 2 Capacity 1000 M<sup>3</sup>/min. (each).

Engines crank shafts, diameter as per Rule / as fitted /

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

What means are provided for cleaning their inner surfaces Hand hole- H.P. Air Recr. Man " - L.P. Air Recr.

rain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 2 5 Cubic capacity of each 150 litre Internal diameter 300 m/m thickness 16 m/m

Seamless, lap welded or riveted longitudinal joint. Material Steel Range of tensile strength 28-35 tons sq. in. Working pressure by Rules 103.7 Kg/cm<sup>2</sup>

Starting Air Receivers, No. 2 Total cubic capacity 12 Cu.M. Internal diameter 1200 m/m thickness 22.5 m/m

Seamless, lap welded or riveted longitudinal joint. Riveted Material Steel Range of tensile strength 28-35 tons sq. in. Working pressure by Rules 484.9 lbs sq. in.



IS A DONKEY BOILER FITTED? Yes  
PLANS. Are approved plans forwarded herewith for Shafting Yes  
Donkey Boilers Yes  
General Pumping Arrangements Yes  
Receivers Yes  
Separate Tanks Yes  
Oil Fuel Burning Arrangements  
SPARE GEAR As per the Rules and in addition. (See separate list).

NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.  
The foregoing is a correct description,  
for GENERAL MANAGER, Manufacturer.

1929. Nov. 1. 2. 12. 16. 29 Dec 18. 28. 1930. Jan 9. 13. 16. 17. 18. 20. 21. 22. 23. 27. 28. 31  
Feb 1. 3. 5. 7. 8. 10. 12. 13. 14. 15. 17. 18. 19. 21. 24. 25. 26. 27. 28 Mar 1. 3. 4. 5. 7. 8. 10. 11. 12. 13. 14. 15. 16. 17. 19. 21. 22. 23. 26. 28. 31  
Apr 4. 7. 8. 9. 10. 12. 14. 15. 16. 17. 19. 21. 22. 23. 24. 26. 27. 28. 29. 30. 31 June 2. 3. 4. 5. 7. 9. 10. 11. 12. 13. 17. 23. 24. 25. 26. 28. 29. 30  
July 1. 3. 4. 5. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 18. 19. 20. 21. 22. 23. 25. 26. 28. 29. 30 Sep 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 25. 26. 28. 29. 30  
Oct 2. 4. 10. 13. 14. 17. 18. 20. 23. 25. 28. Nov 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 25. 26. 28. 29. 30  
Dec 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 25. 26. 28. 29. 30  
Dates of Examination of principal parts—Cylinders 27-6-30 to 29-5-30 Covers 29-5-30 to 7-6-30 Pistons 23-7-30 to 19-8-30 Rods 3-2-30 to 19-6-30 Connecting rods 13-1 to 28-2-30  
Crank shaft 14-2-30 to 10-4-30 (Vienna) Flywheel shaft and Thrust shaft 24-5-29 to 28-2-30 (Hakodate) Intermediate shafts 4-4-30 to 25-8-30 Tube shaft /  
Screw shaft 15-5-30 to 13-8-30 Propeller 28-8-30 Stern tube 5.6-8-30. Engine seatings 6-9-30 Engines holding down bolts 2-10-30  
Completion of fitting sea connections 6-9-30 Completion of pumping arrangements 10-10-30 Engines tried under working conditions 10-11-30  
Crank shaft, Material Ingot steel Identification Mark See below Flywheel shaft, Material Ingot steel Identification Mark See Thr  
Thrust shaft, Material Ingot steel Identification Mark S- LLOYD'S No. 664 ZS 24-2-30. Intermediate shafts, Material Ingot steel Identification Marks See b  
Tube shaft, Material / Identification Mark / Screw shaft, Material Ingot steel Identification Mark P- L. No. 317 KK  
Is the flash point of the oil to be used over 150° F. Yes Kinai Maru. Nag. Rpt No. 1737.  
Tokai Maru. " No. 1743.  
Sanyo Maru. " No. 1750.

Is this machinery duplicate of a previous case Yes If so, state name of vessel  
General Remarks (State quality of workmanship, opinions as to class, &c.)  
Identification Mark:- CRANK SHAFTS.  
Port:- LLOYD'S No. 3992 H.K. 10-4-30. 10414. Star:- LLOYD'S No. 3969 H.K. 8-3-30. 10351.  
" No. 3970 H.K. 8-3-30. 10351. " No. 3987 H.K. 26-3-30. 10401  
Identification Mark:- INTERMEDIATE SHAFTS.  
Port:- LLOYD'S No. 296 K.K. 10-6-30. 1 off. Star:- LLOYD'S No. 296 K.K. 10-6-30. 1  
" " 8-7-30. 2 off. " " 19-6-30. 1  
" " 10-7-30. 1 off. " " 26-6-30. 1  
" " 12-7-30. 1 off. " " G.A. 28-6-30. 2  
" " 26-7-30. 1 off. " " K.K. 6-8-30. 1  
" " 15-8-30. 1 off. " " 25-8-30. 1

The Machinery has been constructed under Special Survey and installed in the vessel in accordance with the Rules and Approved Plans.  
The materials and workmanship are good and the machinery has been examined under working conditions and found satisfactory.  
The Machinery of this vessel is eligible in my opinion to have the record **LMC, 11-30**  
Mean speed on trial 18.436 knots, at 14'-1 3/8", draught.  
Certificates of Castings and Forgings herewith.

The amount of Entry Fee ... £ 60:00 : When applied for, 1. 12. 1930  
Special ... £ 2060:78 :  
Donkey Boiler Fee ... £ 63:00 : When received, 8. 12. 1930  
Air Receivers ... £ 94:50 :  
Travelling Expenses (if any) £

Committee's Minute  
Assigned  
TUE. 6 JAN 1931  
+ Lmb. 11.30 oil exp. D.B. 100 lbs.  
CERTIFICATE WRITTEN.

for self & K. Kishiyama  
George Anderson  
Engineer Surveyor to Lloyd's Register of Shipping

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Foundation