

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 7408

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Date of writing Report 13-7-31 19 When handed in at Local Office 16-7-31 19 Port of Kobe

No. in Survey held at Kobe Date, First Survey 2-9-30 Last Survey 9-7-31 19
Reg. Book. Number of Visits 79

on the ^{Single} ~~Turn~~ ^{Triple} ~~Triple~~ ^{Quadruple} ~~Quadruple~~ Screw vessel *Steel Steam Motor Ship "KIRISHIMA MARU"* Tons ^{Gross} ~~Net~~
Built at *Kobe* By whom built *Hawasaki Dockyard Co.* Yard No. *563* When built *1930/31*
Engines made at *Augsburg* By whom made *M.A.N.* Engine No. *330570* When made *1930/31*
Donkey Boilers made at *Lincoln* By whom made *Babcock & Wilcox Ltd.* Boiler No. *73/4619* When made *1930*
Brake Horse Power *6000* Owners *Hokuriku Kisen Kaisha* Port belonging to *Yokohama*
Nom. Horse Power as per Rule *1857* Is Refrigerating Machinery fitted for cargo purposes *-* Is Electric Light fitted *yes*
Trade for which vessel is intended *Ocean-going*

OIL ENGINES, &c.—Type of Engines *Vertical Inboard Airless Injection* 2 or 4 stroke cycle *2* ~~Single or double acting~~ *Double*
Maximum pressure in cylinders *45 atm.* Diameter of cylinders Length of stroke No. of cylinders No. of cranks
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *(See Bureau Rpt. N° 1324)* Is there a bearing between each crank
Revolutions per minute *95* Flywheel dia. Weight Means of ignition Kind of fuel used
Crank Shaft, dia. of journals as per Rule as fitted Crank pin dia. Crank Webs Mid. length breadth Thickness parallel to axis shrunk Thickness around eyehole
Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule *409 mm* as fitted *416 mm* Thrust Shaft, diameter at collars as per Rule as fitted *?*
Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule *447.8 mm* as fitted *458 mm* Is the ^{trunion} ~~screw~~ shaft fitted with a continuous liner *yes*
Bronze Liners, thickness in way of bushes as per Rule *20.1 mm* as fitted *14 mm* Thickness between bushes as per rule as fitted *23 mm* Is the after end of the liner made watertight in the 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 *yes One length*
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 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 *6'-4 3/8"*
Propeller, dia. *18'-0"* Pitch *19'-1 1/4"* No. of blades *4* Material *Bronze* whether Moveable *yes* Total Developed Surface *8.63 m²* 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 *forced* Thickness of cylinder liners Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers ~~water cooled or~~ lagged with non-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 *-*
Cooling Water Pumps, No. *1 Sea, 1 F.W., 1 Stand By* 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. *-* Diameter *none* Stroke Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line { No. and Size *1 Bilge, 1 Sanitary, each 30 m³/hr. 1 Bilge Ballast 150 m³/hr. 1 General Service 80 m³/hr.* How driven *Indirect Driven*
Ballast Pumps, No. and size *One 150 m³/hr.* Lubricating Oil Pumps, including Spare Pump, No. and size *2-55 m³/hr. + 1-6 m³/hr.*
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 *3-3 1/2, 2-6, 2-2, Tunnel well 1-2 1/2*
In Holds, &c. *N°1 Hold 2-3 1/2 N°2 H. 2-3 1/2 N°3 H. 2-3 1/2 N°4 H. 2-3 1/2 N°5 H. 2-3 1/2 N°6 H. 2-3 1/2 (Chaparral) 1-2 Effluents 2-2*
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *2-6, 1-3 1/2*
Are all the Bilge Suction pipes in Holds and Tunnel 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 *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 *Both*
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 *none* 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 compartment to another *yes* Is the Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *Top Platform*
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes* (See Bureau Rpt. N° 1324)
Can the internal surfaces of the receivers be examined. What means are provided for cleaning their inner surfaces
Is there a drain arrangement fitted at the lowest part of each receiver
High Pressure Air Receivers, No. *1* 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 Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

PLANS. Are approved plans forwarded herewith for Shafting *4/6/30*
(If not, state date of approval)

Receivers

Separate Tanks *30-26/9/30 9-10-30*

Donkey Boilers

General Pumping Arrangements *21-1-31*

Oil Fuel Burning Arrangements *21-1-31*

SPARE GEAR

As required by the Rules

*One spare main shaft with bearings
Two spare propeller blades*

The foregoing is a correct description,

S. Minino for the Manufacturer. *Kawasaki Dock Yard Co. Yokohama*

Dates of Survey while building
During progress of work in shops -- *1930 Sept. 2-9. Oct 7. 23-30 Nov. 15 Dec 26 1931 Jan. 16-20. 22. 27. 29 Feb. 5-6. 21. 23*
During erection on board vessel -- *March 5-9. 10-13-14-19-20. 23-26-27-30 April 1-2-4-6-7-9-13-14-15-17-18-20-21-22-23-24-27-28*
Total No. of visits *79*
May 1-2-4-5-6-7-8-9-11-12-14-15-16-19-25-26-28-29 June 1-3-8-9-10-15-17-19-25-26-29 July 1-2-3-4-9.

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
Crank shaft Flywheel shaft Thrust shaft Intermediate shafts *10-3-31 27-3-31* Tube shaft
27-3-31 Propeller *16-3-31* Stern tube *25-3-31* Engine seatings *25-3-31* Engines holding down bolts *22-5-31*
Completion of fitting sea connections *25-3-31* Completion of pumping arrangements *4-7-31* Engines tried under working conditions *29-6-31*
Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark
Thrust shaft, Material Identification Mark Intermediate shafts, Material *Steel* Identification Marks *See Below*
Tube shaft, Material Identification Mark Screw shaft, Material *Steel* Identification Mark *Below*

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 *No* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)
Tunnel Shafting *B 854 B 852 B 820 B 821 B 885 B 881 B 849 B 867*
LLOYD LLOYD LLOYD LLOYD LLOYD LLOYD LLOYD LLOYD
N° 2850 N° 2882 N° 2795 N° 2796 N° 2849 N° 2818 N° 2819 N° 2851
10-3-31 K.K. 10-3-31 K.K. 10-3-31 K.K. 27-3-31 K.K. 10-3-31 K.K. 25-4-31 A.O.M. 27-3-31 K.K. 27-3-30

This machinery has been installed under special survey in accordance with the Rules and approved plans. The materials and workmanship are good. The main and auxiliary machinery was tried under full working conditions and found to be efficient and eligible in my opinion to have record of +L.M.C 7.31, oil engines T.S. 7.31 C.L and D.B 100 lbs.

The amount of Entry Fee ... *#12*
1/5 Special ... *#439*
Donkey Boiler Fee ... £
Travelling Expenses (if any) £ *See Hull Rpt.*

Committee's Minute
Assigned
+ L.M.C. 7.31 C.L.
Del Eng D.B. 100 lbs.

A. J. Morris
Engineer Surveyor to Lloyd's Register of Shipping.
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Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)