

REPORT ON OIL ENGINE MACHINERY.

No. 1983

30 AUG 1934

Received at London Office

Date of writing Report 6th Aug. 1934 When handed in at Local Office 6th Aug. 1934 Port of NAGASAKI.
No. in Survey held at NAGASAKI. Date, First Survey 7th Aug. 1933 Last Survey 26th July 1934.
Reg. Book. Number of Visits 158.

on the Single Screw vessel "KIYOSUMI MARU" Tons Gross
2,195 Net
Built at Kobe By whom built Kawasaki Dockyard & Co. Yard No. 583 When built
Engines made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha. Engine No. 556 When made 1934
Donkey Boilers made at / By whom made / Boiler No. / When made /
Brake Horse Power 7,600. Owners Kokusai Kisen Kabushiki Kaisha. Port belonging to Tokio.
Nom. Horse Power as per Rule 2,195. Is Refrigerating Machinery fitted for cargo purposes / Is Electric Light fitted
Trade for which vessel is intended All Seas.

L ENGINES, &c. Type of Engines Mitsubishi-Sulzer. Type 7DSD76 2 or 4 stroke cycle 2 Single or double acting Double
Maximum pressure in cylinders 49 Kg/cm² Diameter of cylinders 760 m/m Length of stroke 1200 m/m No. of cylinders 7 No. of cranks 7
Mean Indicated Pressure 5.2 Kg/cm² Is there a bearing between each crank Yes
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1020 m/m
Revolutions per minute 113 Flywheel dia. 2827 m/m Weight 7645 Kg. Means of ignition Compression Kind of fuel used Diesel Oil.

Crank Shaft, dia. of journals as per Rule App. Lon. Crank pin dia. 510 m/m Crank Webs Mid. length breadth 870 m/m Thickness parallel to axis 320 m/m
as fitted 510 m/m Mid. length thickness 320 m/m shrunk Thickness around eye-hole 242.5 m/m
Wheel Shaft, diameter as per Rule App. Lon. Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule 442 m/m
as fitted 610 m/m as fitted as fitted 510 m/m

Propeller Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the { tube } shaft fitted with a continuous liner {
as fitted as fitted as fitted
Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per rule Is the after end of the liner made watertight in the
as fitted as fitted
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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
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
If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface 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 45 to 40 m/m 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

Cooling Water Pumps, No. Two:-Centrifugal Pump. Is the sea suction provided with an efficient strainer which can be cleared within the vessel
Jacket & Piston Cooling
Ge 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
How driven
Is the cooling water led to the bilges. No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
arrangements.

Fast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size
Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size:—In Machinery Spaces In Pump Room
Folds, &c.

Dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 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

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
That pipes pass through the bunkers How are they protected
That 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
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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
Main Air Compressors, No. No. of stages Diameters Stroke Driven by
Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
Savenging Air Pumps, No. One:- 2 Cyl. Tandem Diameter 2100 m/m Stroke 860 m/m Driven by Main Engine
D. Acting.

Auxiliary Engines crank shafts, diameter as per Rule
as fitted

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

Can the internal surfaces of the receivers be examined and cleaned. **Yes** Is a drain fitted at the lowest part of each receiver. **/**

High Pressure Air Receivers, No. **Cubic capacity of each** **Internal diameter** **thickness**

Seamless, lap welded or riveted longitudinal joint. **Material** **Range of tensile strength** **Working pressure** **by Rules** **Actual**

Starting Air Receivers, No. **Two.** **Total cubic capacity** **2 x 14 Cub.M.** **Internal diameter** **1800 m/m** **thickness** **31 m/m**

Seamless, lap welded or riveted longitudinal joint. **T.R.D.B.S.** **Material** **Steel** **Range of tensile strength** **28-32 tons** **Working pressure** **by Rules** **31.7 Kg** **Actual** **30 Kg**

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting. **20-2-33 & 20-4-33** **Receivers** **9-10-33** **Separate Tanks**

Donkey Boilers **General Pumping Arrangements** **Oil Fuel Burning Arrangements**

SPARE GEAR.

Has the spare gear required by the Rules been supplied. **Yes.- See separate list.**

State the principal additional spare gear supplied. **See separate list.**

The foregoing is a correct description,

NAGASAKI WORKS, NITTSUBISHI, JUKOGYO KABUSHIKI KAISHA,

GENERAL MANAGER.

Manufacturer.

Dates of Survey while building
During progress of work in shops—**1933. Aug. 7.10.14.21 Sep 28.30 Oct 14.20.21.24.25.26.28.31 Nov 7.9.10.16.21.24.25.30 Dec 5.6.9.13.15.16.18.20.21.22.26.27.30.**
During erection on board vessel—**1934. Jan 6.8.9.10.11.12.15.16.18.20.22.23.24.25.26.30 Feb 1.5.6.9.10.13.14.16.17.23.24.27.28 Mar 2.3.5.6.8.9.10.12.13.14.16.19.22.23.24.27.29.30 Apr 2.4.5.6.7.9.11.12.13.14.16.17.18.19.20.21.23.24.25.26.28.30 May 1.2.3.4.5.7.8.10.11.14.15.16.23.24.28.29 June 1.2.4.6.7.11.12.14.16.19.20.22.23.25.26.27.29.30 July 2.3.4.6.7.10.11.13.18.19.20.21.26.**
Total No. of visits **158.**

Dates of Examination of principal parts—Cylinders **6-4-34 to 10-7-34** Covers **9-11-33 to 18-7-34** Pistons **10-11-33 to 18-7-34** Rods **6-1-34 to 6-4-34** Connecting rods **22-1-34 to 20-4-34**
Crank shaft **7-11-33 to 17-4-34** Flywheel shaft **and** Thrust shaft **18-1-34 to 30-3-34** Intermediate shafts **Tube shaft**

Screw shaft **Propeller** **Stern tube** **Engine seatings** **Engines holding down bolts**

Completion of fitting sea connections **Completion of pumping arrangements** **Engines tried under working conditions** **22-23-6-1934**

Crank shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 951-A.** Flywheel shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 952**

Thrust shaft, Material **Ingot steel** Identification Mark **See Flywheel shaft.** Intermediate shafts, Material **Identification Marks**

Tube shaft, Material **Identification Mark** Screw shaft, Material **Identification Mark**

Is the flash point of the oil to be used over 150° F.

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

If so, have the requirements of the Rules been complied with.

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with.

Is this machinery duplicate of a previous case. **Yes** If so, state name of vessel **"KANO MARU" Nagasaki Rpt No.1976.**

General Remarks (State quality of workmanship, opinions as to class, &c.)

This Machinery has been constructed under Special Survey in accordance with the terms of the Rules and Approved plans.

The materials have been tested found efficient and the workmanship throughout is good.

Full power and overload tests were carried out on test bed, with engine connected to dynamometer, and found satisfactory, afterwards engine opened up examined and found in good condition.

This Machinery has now been sent to Kawasaki Dockyard & Co., Kobe, where it is intended to be installed on board their Vessel No.583. This case is eligible in our opinion to have the record of in the Register Book, after installation and satisfactory sea trial.

Copies of forging & casting certificates forwarded herewith.

The amount of Entry Fee .. £ **6-0-0**

When applied for,

Special **4/5. %** ... £ **154-17-0**

When received,

Donkey Boiler Fee ... £ **2**
2 Air Receivers. £ **10-10-0**
Travelling Expenses (if any) £

Committee's Minute **FRI. 9 NOV 1934**

Assigned

See Kob. Rpt. 8786

A.D. Buchanan & T. Kimishu
Engineer Surveyor to Lloyd's Register of Shipping.



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