Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 1976

Received at London Office 26 JUL 1934

Date of writing Report 26th June 1934 When handed in at Local Office 26th June 1934 Port of NAGASAKI.

No. in Reg. Book. 40264 on the Single ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "KANO MARU". Tons Gross ____ Net ____

Survey held at NAGASAKI. Date, First Survey 3rd July 1933 Last Survey 16th June 1934 Number of Visits 180(Nag).

Built at Uraga. By whom built Uraga Dock Co.Ltd. Yard No. 386 When built ____

Engines made at Nagasaki. By whom made Mitsubishi Jukogyo Kaisha. Engine No. 555 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.~~ 2187 Is Refrigerating Machinery fitted for cargo purposes / Is Electric Light fitted ____

Trade for which vessel is intended All Seas. 29ft 15" 47ft 1"

OIL 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

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1020 m/m Is there a bearing between each crank Yes

Revolutions per minute 113 Flywheel dia. 2827 m/m Weight ~~7645~~ 8033 Kg. (Nett 7645 Kg) Means of ignition Compression Kind of fuel used Diesel Oil.

Crank Shaft, dia. of journals as per Rule App:Lon: as fitted 510 m/m Crank pin dia. 510 m/m Crank Webs Mid. length breadth 870 m/m Mid. length thickness 320 m/m shrunk Thickness parallel to axis 320 m/m Thickness around eyehole 242.5 m/m

Flywheel Shaft, diameter as per Rule App:Lon: as fitted 510 m/m **Intermediate Shafts,** diameter as per Rule ____ as fitted ____ **Thrust Shaft,** diameter at collars as per Rule 442 m/m as fitted 510 m/m

Tube Shaft, diameter as per Rule ____ as fitted ____ **Screw Shaft,** diameter as per Rule ____ as fitted ____ Is the {tube / screw} shaft fitted with a continuous liner {____ / ____}

Bronze Liners, thickness in way of bushes as per Rule ____ as fitted ____ Thickness between bushes as per rule ____ as fitted ____ Is the after end of the liner made watertight in the

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

e 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 ____

o 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 ____

eller, dia. ____ Pitch ____ No. of blades ____ Material ____ whether Moveable ____ Total Developed Surface ____ sq. feet

od of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

rced 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

nducting 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 ____

ng Water Pumps, No. Two:- Jacket & Piston cooling Centrifugal pump: Is the sea suction provided with an efficient strainer which can be cleared within the vessel ____

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

ps connected to the **Main Bilge Line** {No. and Size ____ / How driven ____}

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

ments ____

st Pumps, No. and size ____ **Power Driven Lubricating Oil Pumps,** including Spare Pump, No. and size ____

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

s, No. and size:—In Machinery Spaces ____ In Pump Room ____

lds, &c. ____

pendent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ____

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

m easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges ____

l Sea Connections fitted direct on the skin of the ship ____ Are they fitted with Valves or Cocks ____

y 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 ____

y 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 ____

pipes pass through the bunkers ____ How are they protected ____

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

re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ____

s 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

ompartment to another ____ Is the Shaft Tunnel watertight ____ Is it fitted with a watertight door ____ worked from ____

f 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 ____

uxiliary Air Compressors, No. ____ No. of stages ____ Diameters ____ Stroke ____ Driven by ____

Small Auxiliary Air Compressors, No. ____ No. of stages ____ Diameters ____ Stroke ____ Driven by ____

Scavenging Air Pumps, No. One:- 2 Cyl.Tandem. D.Acting. Diameter 2100 m/m Stroke 860 m/m Driven by Main Engine.

Auxiliary Engines crank shafts, diameter as per Rule ____ as fitted ____

W184-0139

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. + 3 for Ameliyine. *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* Min. 28-32 tons sq/in. *Working pressure by Rules* 31.7 Kg *Actual* 30 Kg.

L.J. 31/7/34

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* ____
(If not, state date of approval)

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

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes,- See Separare list.

State the principal additional spare gear supplied " " "

The foregoing is a correct description,

Manufacturer. NAGASAKI WORKS, MITSUBISHI JUKOGYO KABUSHIKI KAISHA. GENERAL MANAGER.

Dates of Survey while building

During progress of work in shops 1933. July 3.7.22.26.29 Aug 5.7.8.9.10.13.14.17.18.19.21.25.29 Sep 4.5.6.11.12.13.
22.27.28 Oct 2.3.5.6.10.11.14.18.20.21.24.25.26.28 Nov 1.7.8.10.11.15.16.17.20.
24.25.27.28.29.30 Dec 1.5.6.7.8.9.11.12.14.15.16.18.21.22.26.27.29.30.

During erection on board vessel--- 1934. Jan 6.8.9.10.11.12.13.16.18.19.20.22.23.24.25.27.30.31 Feb 1.2.5.6.7.8.10.1
16.17.19.20.21.22.23.24.26.27 Mar 1.2.5.7.8.9.10.12.13.14.15.16.17.22.23.24.
29. Apr 4.5.6.7.9.10.12.13.14.16.17.18.19.20.21.23.25.26.28 May 1.2.4.7.10.11.18
23.24.25.26.28.30 June 1.2.4.6.7.8.9.11.12.13.15.16.

Total No. of visits 180.

Dates of Examination of principal parts—Cylinders 21-2-34 to 25-5-34 *Covers* 19-7-33 to 25-5-34 *Pistons* 4-8-33 to 8-6-34 *Rods* 5-12-33 to 28-5-34 *Connecting rods* 27-11-3 to 5-3-3

Crank shaft 15-9-33 to 5-2-34 *Flywheel shaft* and *Thrust shaft* 16-1-34 to 24-2-34 *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* on test bed. 24 & 25-5-3

Crank shaft, Material Ingot steel *Identification Mark* LLOYD'S No.899 & 899-A HDB 5-2-34 *Flywheel shaft, Material* Ingot steel *Identification Mark* LLOYD'S No.9 TK 24-2-

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 No *If so, state name of vessel* /

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 Rule and Approved plans.

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

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

This machinery has now been sent to Uraga Dock Co,Ltd., where it is intended to be installed on their Vessel No.386. This case is eligible in our opinion to have the record of ✠LMC in Register Book, after installation and satisfactory sea trial.

Copies of Forging & Casting certificates forwarded herewith.

Certificate (if required) to be sent to ____

Certificate (if required) to be sent to ____

(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,	
Special 4/5%. ...	£ 154-17-0	21. 6. 1934	
Donkey Boiler Fee ...	£	When received,	
2 Air Receivers	£ 10-10-0	23.8.1934	
Travelling Expenses (if any)	£		

H. D. Buchanan & T. Kunishi
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute Rec'd 2 OCT 1934

Assigned See Ha SE 5343