

REPORT ON OIL ENGINE MACHINERY.

No. 1955
3 MAY 1934

Received at London Office

Date of writing Report 9th Apr. 1934 When handed in at Local Office 9th Apr. 1934 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 9th March 1933 Last Survey 31st March 1934
Reg. Book. Number of Visits 162.

40819 on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel "NICHIO MARU" Tons { Gross 7508.86
Net 5521.88

Built at Nagasaki. By whom built Mitsubishi Zosen Kaisha, Ltd. Yard No. 551 When built 1934

Engines made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Engine No. 551 When made 1934

Donkey Boilers made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 551 When made 1934

Brake Horse Power 4,200. Owners Toyo Kisen Kabushiki Kaisha. Port belonging to Tokyo.

Nom. Horse Power as per Rule 839. Is Refrigerating Machinery fitted for cargo purposes / Is Electric Light fitted Yes

Trade for which vessel is intended All Seas.

ENGINES, &c.—Type of Engines Mitsubishi Airless Injection 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 45 Kg/cm² Diameter of cylinders 720 m/m Length of stroke 1250 m/m No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 5.6 Kg/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 960 m/m Is there a bearing between each crank Yes
Revolutions per minute 132 Flywheel dia. 2200 m/m Weight 5000 Kgs. Means of ignition Compression Kind of fuel used Diesel Oil, F.P. above 150° F.

Crank Shaft, dia. of journals as per Rule 439.3 m/m Crank pin dia. 500 m/m Crank Webs Mid. length breadth 836 m/m Thickness parallel to axis 315 m/m
as fitted 500 m/m Mid. length thickness 315 m/m shrunk Thickness around eyehole 227.5 m/m

Flywheel Shaft, diameter as per Rule 439.3 m/m Intermediate Shafts, diameter as per Rule 326.8 m/m Thrust Shaft, diameter at collars as per Rule 343.1 m/m
as fitted 500 m/m as fitted 378 m/m as fitted 500 m/m

Tube Shaft, diameter as per Rule / Screw Shaft, diameter as per Rule 359.6 m/m Is the screw shaft fitted with a continuous liner Yes
as fitted / as fitted 415 m/m

Bronze Liners, thickness in way of bushes as per Rule 18.6 m/m Thickness between bushes as per rule 14 m/m Is the after end of the liner made watertight in the
as fitted 23 m/m as fitted 17 m/m 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 /

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

Shaft No. If so, state type / Length of Bearing in Stern Bush next to and supporting propeller 1670 m/m
Propeller, dia. 15.5 ft Pitch 11.4 ft No. of blades 4 Material Bronze whether Moveable Moveable Total Developed Surface 76.3 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
Forced Thickness of cylinder liners 56 m/m at top. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
non-conducting 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 /

Cooling Water Pumps, No. Two- Jacket & Piston Cooling Pumps. 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 / Stroke / Can one be overhauled while the other is at work /

Pumps connected to the Main Bilge Line { No. and Size Three- Reciprocating: - 1 @ 50 tons/hr: 1 @ 200 tons/hr: 1 @ 110 tons/hr
How driven Electric Motors.

Is the cooling water led to the bilges / If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
arrangements /

Ballast Pumps, No. and size Two: - 1 @ 200 tons/hr. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two Rotary, 30 Cu. M/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 Side bilge 4 @ 3 1/2": Cofferdam 2 @ 2": Bilge hat 2 @ 2" In Pump Room /
No. 1 Hold 2 @ 3": No. 2 Hold 2 @ 4": No. 4 Hold 2 @ 3": No. 5 Hold 2 @ 3": Tunnel well 1 @ 2 1/2":
No. 3 Hold 2 @ 7" (Oil suction).

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 8": 2 @ 5":
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

Are they fitted with 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 Above
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

How are they protected /
Have they been tested as per Rule /

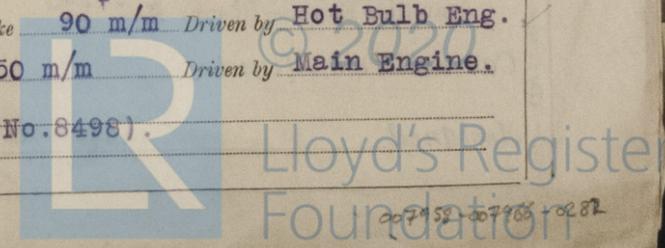
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one
compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top Grating at U.Dk. level.

If 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. Two (Kobe Cert. No. 3716-7) No. of stages 3 Diameters 70x270x310 m/m Stroke 180 m/m Driven by Aux. Gen. Eng.

Auxiliary Air Compressors, No. / No. of stages / Diameters / Stroke / Driven by /
Small Auxiliary Air Compressors, No. One (Kobe Cert. No. 3492) No. of stages 2 Diameters 30x88 m/m Stroke 90 m/m Driven by Hot Bulb Eng.

Scavenging Air Pumps, No. Six. Diameter 600 m/m Stroke 1250 m/m Driven by Main Engine.

Auxiliary Engines crank shafts, diameter as per Rule See Kobe Report, attached herewith. (No. 8498)
as fitted



July 4
4.5.11
16.
1.
83

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 **Yes**

High Pressure Air Receivers, No. / None 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. (Nag. Cert No. 838). Total cubic capacity 8 Cu.M. each. Internal diameter 1500 m/m thickness 38 m/m

Seamless, lap welded or riveted longitudinal joint R.R.D.B.S. Material Steel Range of tensile strength Shell 28-32 tons End 26-30 tons. Working pressure by Rules 47.1 Kg/cm² Actual 45 Kg/cm²

IS A DONKEY BOILER FITTED? **Yes** If so, is a report now forwarded? **Yes**

Is the donkey boiler intended to be used for domestic purposes only **No**

PLANS. Are approved plans forwarded herewith for Shafting APP. date, 30-3-33 Receivers 8-4-33 Separate Tanks 15-2-33
(If not, state date of approval)

Donkey Boilers 8-4-33 General Pumping Arrangements **Yes** Oil Fuel Burning Arrangements /

SPARE GEAR.

Has the spare gear required by the Rules been supplied **Yes as per Rules.**

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

MAGASAKI WORKS, MITSUBISHI ZENITSU KAISHA LTD.

The foregoing is a correct description,

T. Inagaki

GENERAL MANAGER.

Manufacturer.

1933:—Mar 9.11.31 Apr 5.12.22.24.28 May 1.2.3.8.10.11.13.17.22.24.26.30 June 8.10.14.16.23.30 July 3.4.5.7.10.11.17.20.22.24.25.27.28.29 Aug 1.2.5.7.8.11.13.14.17.18.19.21.23.24.26.28.29.31 Sep 1.2.5.6.8.9.11.12.15.16.18.19.20.22.25.26.27.29.30 Oct 2.3.4.5.6.10.11.12.13.16.18.19.20.21.24.25.26.27.28.30.31 Nov 1.2.6.7.10.11.13.15.16.17.18.20.21.22.23.24.25.27.28.29.30 Dec 1.2.5.6.7.8.9.13.15.17.22.23.27.31. 1934:—Jan 5.6.8.22.23.27.30.31 Feb 2.5.10.13.14.16.19.28 Mar 3.8.9.17.22.23.27.31.

Dates of Examination of principal parts—Cylinders 7-7-33 to 26-10-33 Covers 23-8-33 Pistons 30-5-33 to 28-9-33 Rods / Connecting rods 9-3-33 to 6-11-33

Crank shaft 3-5-33 to 16-9-33 Flywheel shaft 14-8-33 to 6-11-33 Thrust shaft / Intermediate shafts 22-9-33 to 23-11-33 Tube shaft /

Screw shaft 8-11-33 to 25-11-33 Propeller 18-11-33 Stern tube 18-11-33 Engine seatings / Engines holding down bolts 5-2-34

Completion of fitting sea connections 28-11-33 Completion of pumping arrangements 5-2-34 Engines tried under working conditions 15-3-34

Crank shaft, Material Ingot steel Identification Mark LLOYD'S No. 787 Flywheel shaft, Material Ingot steel Identification Mark LLOYD'S No. 8

Thrust shaft, Material Ingot steel Identification Mark See Flywheel shaft Intermediate shafts, Material Ingot steel Identification Mark LLOYD'S No. 8

Tube shaft, Material / Identification Mark / Screw shaft, Material Ingot steel Identification Mark LLOYD'S No. 8

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**

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 "Uyo Maru" Nag. Rpt No. 1916. "Koyei Maru" Nag. Rpt No. 1940.

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

The Machinery of this vessel has been constructed under Special Survey in accordance with the Rules and Approved plans.

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

This Machinery has been efficiently installed on board, tried under full load, overload & manoeuvre conditions, with satisfactory results, afterwards the machinery was opened up examined and found in good order.

This case is eligible in our opinion have the notation of **LMC, 3-34** in the Register Book

Mean speed on trial 15.767 knots at 132 r.p.m. Overload 16.505 knots at 139 r.p.m.

Forging and casting certificates herewith.

The amount of Entry Fee .. £ 6-0-0 : When applied for,

Special £ 175-8-6 : 2, 4, 134

Donkey Boiler Fee £ 6-6-0 : When received,

Air Receivers, £ 9-9-0 : 24.5.1934

Travelling Expenses (if any) £ : 7D

Committee's Minute THE 8 MAY 1934

Assigned + LMC 3.34

D.B. 120th Oil Inf.



© 2020 Lloyd's Register Foundation

Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)